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Performance Audit

Commonwealth Debt Management

Australian National Audit Office

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Australian National
Audit Office

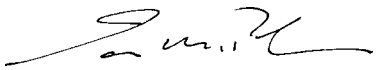
Canberra ACT
12 October 1999

Dear Madam President
Dear Mr Speaker

The Australian National Audit Office has undertaken an across-agency performance audit of Commonwealth debt management in accordance with the authority contained in the *Auditor-General Act 1997.* I present this report of this audit, and the accompanying brochure, to the Parliament. The report is titled *Commonwealth Debt Management.*

Following its tabling in Parliament, the report will be placed on the Australian National Audit Office's Homepage —http://www.anao.gov.au.

Yours sincerely



Ian McPhee
Acting Auditor-General

The Honourable the President of the Senate
The Honourable the Speaker of the House of Representatives
Parliament House
Canberra ACT

AUDITING FOR AUSTRALIA

The Auditor-General is head of the Australian National Audit Office. The ANAO assists the Auditor-General to carry out his duties under the *Auditor-General Act 1997* to undertake performance audits and financial statement audits of Commonwealth public sector bodies and to provide independent reports and advice for the Parliament, the Government and the community. The aim is to improve Commonwealth public sector administration and accountability.

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Contents

Summary and Recommendations

Summary

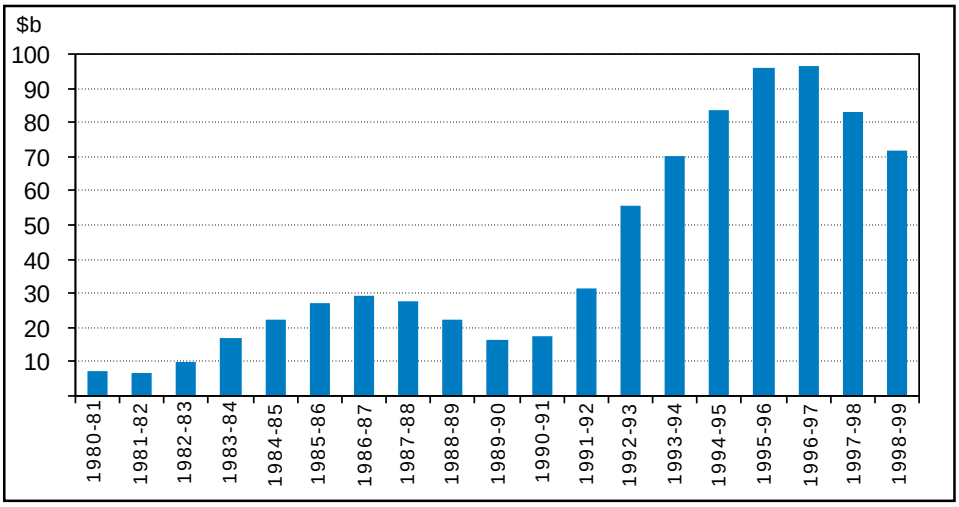
Background

1. The Commonwealth debt is a result of Government expenditure on recurrent and capital items exceeding revenue from taxation and other sources. The management of the Commonwealth debt involves consideration of a range of issues including where to borrow funds (that is, domestically or in offshore markets); the duration of borrowings; and what form of debt to issue and when and how to retire debt.

2. The Commonwealth has been a significant issuer of debt, with Commonwealth Government Securities on issue peaking at $107 billion as of 30 June 1997.[1] Net debt, calculated by deducting selected financial assets from gross debt, peaked at $96 billion in 1996–97 (see Figure 1). The cost of servicing the Commonwealth Government Securities on issue is also financially material, amounting to $7.8 billion in 1997–98.[2]

Figure 1

Commonwealth Net Debt: 1980–81 to 1998–99



Source: ANAO analysis of data from Treasury used to compile Chart 4 in *Budget Strategy and Outlook 1999–2000*, Budget Paper No.1, p. 1–17.

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1 The Treasury, *Commonwealth Debt Management 1996-97*, pp. 1 and 53. This figure comprises the Commonwealth's liability for those Commonwealth Government Securities on issue. Accordingly, it excludes Securities held by the Reserved Money Fund (which do not constitute a Commonwealth liability) and Securities issued on behalf of the States and Territories (the Commonwealth ceased new money borrowings on behalf of the States and Territories in 1987–88 and ceased roll-over borrowing from end-June 1990).

2 Figures for 1998–99 were not available from Treasury at the time this report was finalised.

3. By comparison with other industrialised countries, Australia's level of general government net debt is low, being estimated at 15 per cent of Gross Domestic Product (GDP) as at 30 June 1999.[3] At that date, net debt in the United States was estimated to be 42 per cent of GDP; New Zealand's net debt was 25 per cent of GDP; and the Organisation for Economic Co-operation and Development (OECD) average was 44 per cent of GDP. As a percentage of GDP, among member countries of the OECD, only Korea and Norway had lower gross debt than Australia in 1997, which is the latest year such information is presently available.

4. Net debt reduction, by means of ongoing budget surpluses and repaying debt with the proceeds of asset sales, is one of the Government's key priorities with a target of halving the ratio of Commonwealth general government net debt to GDP by 2000–01. This would result in ongoing savings in public debt interest and reduced exposure to changes in financial markets.

5. Ministerial responsibility for Commonwealth debt management resides with the Treasurer. The Reserve Bank of Australia (Reserve Bank) operates in domestic financial markets as the Commonwealth's debt management agent. Up until 30 June 1999, the Department of the Treasury (Treasury) advised the Treasurer on all aspects of Commonwealth debt management. The Government announced, in the May 1999 Budget, its intention to establish within the Treasury portfolio a specialist agency to be known as the Australian Office of Financial Management (AOFM). From 1 July 1999, the AOFM assumed responsibility for Commonwealth debt management.[4]

Audit approach

6. ANAO considered that a performance audit of Commonwealth debt management would provide enhanced assurance to Parliament about the management of the debt portfolio and could identify opportunities for improvement. The specific audit objectives were to:

- review, and consider opportunities to improve, the reporting and disclosure of the Commonwealth's public debt;
- assess the effectiveness of the raising, management and retirement of Commonwealth debt, consistent with an acceptable degree of risk exposure; and

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[3] *Budget Strategy and Outlook 1999–2000*, Budget Paper No.1, Chart 5, p.1-18.

[4] Audit fieldwork was completed in June 1999. Accordingly, throughout this audit comments and findings refer to the Department of the Treasury. As the Australian Office of Financial Management assumed responsibility for the Commonwealth's existing debt management activities from 1 July 1999, the audit recommendations are primarily directed at this agency.

- determine whether there are opportunities to improve the Commonwealth's approach to the raising, management and retirement of Commonwealth debt.

7. The scope of the audit included management of Commonwealth Government Securities and over-the-counter derivative transactions, comprising interest rate and cross-currency swaps.[5] The *Loans Securities Amendment Act 1988* gave the Treasurer and nominated delegates specific power to use financial derivatives for debt management purposes. Treasury uses swap derivatives to adjust the duration and currency exposure of the debt portfolio in accordance with its portfolio targets.

Audit conclusions

8. Treasury's debt issuance programs have met Budget funding requirements. Domestic debt management has been effectively undertaken through: the issue of various borrowing instruments; the redemption and early repurchase of Commonwealth Government Securities; the formulation and undertaking of portfolio management; and assessing the budgetary cost of the debt portfolio.

9. Budget surpluses have been achieved since 1996–97 and surpluses are projected to continue over the forward estimates period. Although surpluses have eliminated the need to fund the budget through the issue of new debt, Treasury continues to issue new debt for a number of reasons including the desire to maintain a liquid and efficient domestic market for Commonwealth securities. Borrowing program complexities have been further increased by the uncertainty associated with projected budget cash surpluses, partly a result of uncertainty concerning the timing and extent of further sales of Telstra shares.[6]

10. The Commonwealth is exposed to a number of significant risks in its debt management operations. Treasury's debt management objective is to raise, manage and retire Commonwealth debt at the lowest possible long-term cost, consistent with an acceptable degree of risk exposure. Debt management risks include those related to the Commonwealth's ability to raise funds when required in an orderly manner and without cost penalty, and the potential impact of changes in interest and exchange

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[5] Swaps involve each party to the contract agreeing to exchange (swap) their respective payment obligations. These payment obligations are specified by reference to the notional principal value specified in the swap agreement.

[6] The *Telstra (Further Dilution of Public Ownership) Act 1999* was passed by the Parliament in June 1999, allowing the sale of up to 49.9 per cent of the Commonwealth's original equity interest in Telstra. The Commonwealth is required to retain the remaining 50.1 per cent. Accordingly, further legislative change will be required if the full privatisation is to proceed.

rates on the cost of the debt portfolio. Treasury has moved increasingly in recent years to conduct its debt management responsibilities within an explicit risk management framework.

11. A feature of Treasury's risk management approach has been the development and refinement of a portfolio management approach to manage the ongoing cost and risk of the debt portfolio. This requires a focus on changes in interest rates and exchange rates as these variables can have a significant impact on borrowing costs. Treasury's portfolio management approach has involved developing a portfolio benchmark that specifies the target characteristics for the debt portfolio in terms of: the proportion of Australian and foreign currency denominated debt; and the balance between fixed and floating interest rate exposure.

Debt reporting

12. Debt represents an important source of funding but also imposes significant obligations on the Commonwealth over time to pay interest and repay the principal. These obligations represent a significant liability for the Commonwealth which, in the normal course, is serviced by Commonwealth revenues, including the proceeds of any asset sales.

Size of the debt

13. As of 30 June 1999, based on data from Treasury and the Reserve Bank, ANAO estimated the repayment liability of the aggregate Commonwealth debt portfolio administered by Treasury to be $85.5 billion. At this time, Treasury's market valuation of the debt portfolio was $93.9 billion (comprising primary securities and financial derivatives). Two instruments comprise the majority of securities on issue:

- Treasury Fixed Coupon Bonds are the Commonwealth's major debt instrument with a repayment liability of $65 billion as of June 1999 and market value of $73 billion. The market value exceeds the face value by some $8 billion because the current low interest rate environment makes the relatively high coupons on the Commonwealth's long-term marketable debt more attractive to investors, increasing its market price. The high market value also increases the cost of early repurchases undertaken to reduce net debt.
- Treasury Notes are the Commonwealth's primary cash management instrument, being issued to borrow short-term funds from the money market to cover forecasted temporary cash shortfalls because of timing mismatches between revenue receipts and disbursements on outlays and debt repayment. They are issued at a discount to their face value,

with the face value repaid at maturity. The discount represents the interest on Treasury Notes. The June 1999 repayment liability for Treasury Notes was $7 billion.

14. The other major instruments on issue as at 30 June 1999 comprise Capital Indexed Bonds ($6.5 billion repayment liability) and Adjustable Rate Bonds ($4.3 billion repayment liability). Capital Indexed Bonds are a medium to long-term security which transfer inflation risk from the investor (bondholder) to the Commonwealth. The principal value is indexed to inflation with quarterly interest payments calculated as a fixed percentage of the current inflation-indexed value of the principal. Adjustable Rate Bonds are also a medium to long-term security with the interest rate adjusted quarterly in line with movements in bank bill rates.

Foreign currency exposure

15. A feature of the debt portfolio is the stated objective to have between 10 and 15 per cent of the market value of the portfolio denominated in United States dollars. This target range is based on Treasury's portfolio benchmark research which concluded that the long-term expected cost of the debt portfolio could be minimised (subject to acceptable risk) by adjusting the foreign currency composition of the debt portfolio. The research recognised that the expected long-term cost reductions could only be achieved by taking on risk associated with interest and exchange rate movements.

16. As of 30 June 1999, the $92 billion (market value) of Australian dollar denominated debt securities far outweighed the $722 million of foreign currency debt securities. Treasury has not issued debt securities in offshore markets since 1987. Instead, Treasury has used cross-currency swaps to achieve the target range for United States dollar exposure. In this sense, Treasury has used cross-currency swaps, not to hedge existing exposures, but to create new exposures to United States dollars as a strategy to reduce debt costs for an acceptable level of risk. A 1996 consultancy found that Treasury's decision to seek a net foreign currency exposure, independent of foreign exchange needs or the need to offset foreign currency assets, is in contrast to the practices of other sovereign debt managers, State treasury corporations and most private sector practice.

17. Variable exchange rates mean that foreign exchange gains and losses are relatively unsystematic. Accordingly, the value of foreign currency denominated exposures can change markedly. Treasury advised ANAO that its longer-term approach to portfolio management operations (including foreign exchange risk) is consistent with the longer-term presence of the Commonwealth in debt markets.

Debt portfolio management

18. An important part of Treasury's increasing focus on risk management has been the adoption of a portfolio benchmark that specifies the optimal exposure to foreign currencies and interest rates to achieve Treasury's debt management objective. The benchmark plays a role as a target towards which new debt issuance and Commonwealth swap activity has adjusted the composition of the debt portfolio over time. It is underpinned by quantitative portfolio analysis, undertaken in part by specialist consultants contracted by Treasury.

Interest rate exposure

19. Treasury has had a broad benchmark target for domestic interest rate exposure of the debt portfolio since 1992–93. The exposure to domestic interest rates is considered by Treasury to be the key influence in determining debt portfolio risk. Treasury's major debt instrument (Fixed Coupon Bonds) involves fixed interest rates making it difficult to significantly alter the duration of the portfolio once debt has been issued. In comparison, the amount of floating rate debt on issue is much smaller. Instead, swap derivatives have been the primary means of adjusting portfolio duration (which is Treasury's measure of the interest rate sensitivity of the debt portfolio) but there are operational limits on the size of the swap program. Between February and June 1999, the modified duration has been consistently within the benchmark target range.

Debt registry services

20. The Reserve Bank provides registry services in relation to the Treasury's Australian dollar denominated debt securities. These services involve the conduct of competitive tenders, arranging for the payment of interest and repayment of principal and maintaining and administering the debt register. The Reserve Bank has reduced its registry fees to Treasury by one-third in the period 1993–94 to 1997–98. The cost reductions reflect operational efficiency gains and a decline in activity levels associated with the reduction in Commonwealth debt issuance.

Compliance

21. Treasury's administration of the Commonwealth's contractual obligations in relation to its marketable debt instruments was found to be effective. Between 1 July 1993 and 31 December 1998 more than 175 000 interest payments with a total value of over $41 billion were made on Commonwealth Government Securities on behalf of Treasury by the Reserve Bank. ANAO can provide reasonable assurance, based on audit procedures that included examining evidence supporting the calculation of interest on Treasury bond series' for this period, that the correct amount

of interest was paid. ANAO also found that Treasury has implemented effective administrative procedures to monitor payments by swap counterparties, and that Treasury responded appropriately to any payment delays by counterparties.

Debt reduction

22. The Government's policy is to use the proceeds of asset sales primarily to reduce government debt and interest obligations. Between July 1996 and June 1999, Commonwealth asset sales have raised some $25 billion in cash proceeds. The inflow of funds from these asset sales has reduced the need to issue new debt and provided funds which have contributed to the repurchase of Commonwealth debt.

23. The repurchase of long-dated Commonwealth Government Securities offers the potential to reduce public debt interest and the Commonwealth's exposure to market risk. The size of the repurchase program is established during the development of the annual borrowing program, with Treasury prepared to repurchase bonds which appear to be trading below their fair value. Since 1997–98, Treasury has repurchased $3.7 billion in long-dated Fixed Coupon Bonds at a cost of $4.6 billion, representing a $935 million, or 25 per cent, repurchase premium. The repurchases have resulted in a total nominal saving of $1.1 billion. More recently, Treasury has begun to invest surplus cash with the Reserve Bank, through a term deposit facility.

24. Treasury intended to manage the reduction in Commonwealth Government Securities on issue in line with the objective of maintaining the liquidity and efficiency of the Commonwealth yield curve. Accordingly, Treasury planned not to repurchase the total amount of Commonwealth Government Securities implied by the reduced level of borrowings but intended to adopt a range of financial management techniques to maintain the desired volume of securities on issue while at the same time reducing net debt. These techniques may include acquisition of financial assets (possibly including debt issued by other sovereigns) in conjunction with selective repurchases of Commonwealth Government Securities. Treasury envisages that the AOFM will take a similar approach. The management of a portfolio that comprises both assets and liabilities would be more complex than managing a gross debt portfolio and risk exposures may increase markedly. The establishment of a specialist AOFM is intended to significantly enhance the Commonwealth's capacity in this regard.

Financial derivatives

25. Treasury is an active participant in the over-the-counter derivatives market, entering into interest rate and cross-currency swaps to adjust the duration and currency exposure of the debt portfolio. Between May 1988 and June 1999, Treasury entered into 332 swap transactions with a notional principal value of around $38 billion. At 30 June 1999, the aggregate Commonwealth swap portfolio consisted of 208 swaps with 25 counterparties with an outstanding notional principal value of around $30 billion.

26. Overall, in the 12 years since it commenced entering into swaps, Treasury reported to ANAO that its swap activities have achieved an aggregate direct economic gain of $539 million, although there have been significant year-by-year variations in returns. For example, in the last five years the aggregate direct gain has been $58 million including a $1.33 billion gain in 1995–96 and a $1.97 billion loss in 1997–98.

27. The direct economic gain of $539 million over the 12 years comprises a direct **realised gain** of $1.836 billion in cash flows and a direct **unrealised loss** of $1.297 billion. This latter figure is the current market value of the outstanding swaps, which represents the unrealised remaining future cash flows on these swaps.[7] In addition to the direct returns on the swap portfolio, swap transaction cash flows have **indirect effects** to the extent to which they change the Budget financing requirement and therefore change required debt issuance. Treasury estimates that the indirect financing effect of realised cash flows on swap transactions up to 30 June 1999 has, in aggregate, resulted in public debt interest savings of $405 million on cross-currency swaps and $9 million on interest rate swaps.

28. Although originally developed as a risk management tool, derivatives also involve risks that need to be managed. Significant unanticipated financial losses can occur as a result of unfavourable movements in interest and exchange rates or flawed corporate governance systems that do not ensure approved policies are applied and are effective. In this respect, the audit identified control deficiencies in a number of areas, namely:

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[7] In response to a draft of this report, AOFM commented that the 30 June 1999 negative market value of some $1.3 billion is not a measure of the success or otherwise of the strategy underpinning the Commonwealth's portfolio management operations. AOFM stated that the benefit or otherwise of the swap program can only be properly assessed by comparing realised cash flows (and any interest earning/costs on these flows) and unrealised swap cash flows jointly, as is done in Chapter 5 of the ANAO report. See further in Figure 5.3 in Chapter 5.

- Treasury's September 1997 consultancy report on institutional and resourcing arrangements for Commonwealth debt management concluded that Treasury's control environment is essentially sound, with a clear segregation of duties and the engagement of consultants to assist in the provision of financial market software as part of broader consultancy aims. However, no internal audits or external reviews of compliance with the controls associated with Treasury's use of financial derivatives have been undertaken. Periodic internal audits and external reviews undertaken by appropriately trained staff can provide an operationally independent assessment of the application and effectiveness of the internal control framework. To be effective, their findings need to be acted upon.
- The legal enforceability of derivatives contracts has been found to be among the greatest risks faced by market participants. Consistent with market practice, Treasury uses the standard Master Agreement developed by the International Swap and Derivatives Association to establish the terms and conditions of its derivatives transactions with individual counterparties. Some of these Master Agreements are dated, including those involving counterparties with which Treasury has significant exposures and which are regularly invited to participate in swap tenders. The dated nature of some of Treasury's Master Agreements can affect Treasury's ability to effectively manage credit risk in derivative transactions.
- In many jurisdictions, oral contracts are legally enforceable and, accordingly, derivative traders' telephone conversations are recorded. This can resolve disagreement over contractual terms and/or assist to enforce a derivatives contract that has not been documented by the parties. Treasury does not have the facilities to record swap tenders conducted by telephone. Instead, Treasury has a policy of asking each bidder in a swap tender to confirm their bid by facsimile after the telephone tender has been completed. Treasury advised ANAO that the tender process is more transparent than usual market practice where dealers select the counterparty with whom they wish to transact without seeking bids from other counterparties. However, the audit scope was limited because facsimile bid confirmations did not exist for 22 per cent of unsuccessful bids in the swap tender sample examined by ANAO. Treasury advised ANAO that this was despite its practice to follow up with counterparties the provision of such bid confirmations.
- The interest rate and cross-currency swaps used by Treasury obligate the two parties to the contract to exchange a series of cash flows at specified intervals known as payment or settlement dates. It is

therefore important that the contract specifications are agreed between the counterparties, properly documented and adhered to, and that mechanisms exist to maintain and safeguard contract documentation. ANAO examined swaps with a sample of Treasury counterparties and found that the terms and conditions for each transaction had been set forth in a written and signed confirmation exchange by the parties. This provides a sound contractual basis for the derivative transactions. However, ANAO also found that there are opportunities to improve the design and application of internal controls in relation to the processes for documenting the financial terms of swap transactions, including more timely finalisation of confirmations.

- Significant unanticipated financial losses in relation to derivatives can occur as a result of unfavourable movements in interest and exchange rates. As indicated at paragraph 27, at 30 June 1999, the market value of the swaps portfolio was estimated to involve an unrealised loss of $1.297 billion. ANAO considers a number of steps can be taken to improve the management of market risk on the swap portfolio including undertaking periodical independent reviews of internal controls, enhancing documentation of risk management policies and procedures, and the timely review and reporting of significant movements in the net exposures around the mid-point of the relevant benchmark ranges for cross-currency and interest rate swaps.

Improvement opportunities

29. Treasury employs a risk management approach to its debt management and an operational framework centred on the management of the interest rate and foreign currency exposures of the debt portfolio by reference to a hypothetical portfolio benchmark. This philosophical approach puts the Commonwealth close to the forefront of OECD practice in sovereign debt management. However, while significant savings in debt service costs have been realised, resource limitations have constrained Treasury's capacity to obtain maximum benefit from this risk management approach. The audit identified a number of areas where improvements can be made to the risk management and control environment for Commonwealth debt management. The establishment of the AOFM provides an opportunity to make these improvements.

Foreign currency risk exposure

30. Treasury's target of holding 10 to 15 per cent of the debt portfolio with a United States dollar exposure is based on analysis of the cost and risk of that exposure. This analysis is not based on short-term views

about the future path of interest or exchange rates. Inputs to this analysis include assumptions about structural factors such as Australian dollar risk premiums and volatility based on historical data, robustness testing and judgement.

31. The management of the Commonwealth debt portfolio in accordance with specific benchmarks can only be effective if the benchmarks are appropriate. In the light of market developments, Treasury has reviewed the assumptions underlying the benchmark recommendation for United States dollar exposure on three occasions in recent years with the most recent (August 1998) review concluding that the recommendation remained valid. Audit analysis indicates that, although the long-term risk may be acceptable, borrowing in United States dollars has increased the short-term risk of increased debt costs. This is important because Treasury's objective of seeking long-term cost savings from pursuing its benchmark targets is stated to be subject to acceptable short-term cost volatility.

32. Having regard to the changed economic circumstances since the original analysis and the planned reduction in Commonwealth net debt, ANAO advocates continued examination of the merits of increasing the Commonwealth's foreign currency risk exposure above the level necessary to fund expenditure and a re-examination of all benchmark portfolio targets as part of the next portfolio management consultancy. ANAO also considers that, although there is Ministerial endorsement of the annual swaps strategy used to move the portfolio towards the portfolio benchmark targets, there is merit in obtaining formal Ministerial endorsement of the actual targets.

Regular performance assessments

33. Treasury's portfolio benchmark enables an objective assessment to be made of its performance against its debt management objective of minimising long-term cost with an acceptable degree of risk exposure. Treasury measures its success in maintaining the Commonwealth's portfolio within the benchmark ranges. This performance has been reported in the annual Commonwealth Debt Management Report produced by Treasury, as well as a wide range of operational and transactional performance indicators.

34. Treasury advised ANAO that, consistent with the experience of OECD sovereign peers, development of a suite of objective risk management performance indicators has proved both resource-intensive

and challenging, particularly in relation to portfolio (market) risk management. Indeed, there has only been one performance assessment completed to date by Treasury's portfolio management consultant. This assessment concluded that the departure of the debt portfolio from the **mid-point** of the benchmark target ranges between 2 July 1997 and 1 July 1998 resulted in additional debt costs of $362 million in that year relative to the benchmark.[8]

35. Treasury and the AOFM have noted that there are public policy and risk management considerations that influence the conduct of its portfolio management operations and the degree to which these operations can maintain the portfolio within the benchmark ranges. Nevertheless, ANAO considers continuous reporting and proper disclosure of performance against targets is an important corporate governance principle for effective debt management.

Debt reduction

36. The ability to accurately forecast the timing and quantum of the significant cash flows associated with major Commonwealth asset sales is important to Treasury's borrowing and repurchase programs. However, Treasury experienced a number of difficulties with forecasting the timing and size of the receipt of proceeds from the 1997 Telstra public share offer owing to deficiencies in the data provided to it by the Office of Asset Sales and IT Outsourcing (OASITO) and delays in banking of sale proceeds by OASITO. In addition, receipt of second instalment proceeds from this sale was prolonged which had cash management implications for Treasury's short-term borrowing activities. OASITO has also pointed to the need to improve Treasury's communication of its information requirements. Improved arrangements for sharing the information necessary to develop accurate forecasts of the expected timing and quantum of sale receipts and payments, including those from the proposed further sale of Telstra shares, would assist the AOFM debt issuance and debt reduction activities.

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[8] In response to a draft of this report, AOFM commented that this result should be qualified by noting that the benchmark targeted by the AOFM comprises a range of interest rate duration and currency exposure targets, not the mid-point of ranges. The breadth of the benchmark range reflects the results of the benchmark analysis. AOFM targets this range, without a strong preference as to any particular point within the range. AOFM said that the performance report referred to by the ANAO represented an initial exploration into this type of performance analysis, but did not capture a complete or true quantitative representation of the Commonwealth's portfolio management performance or, significantly, relevant public policy constraints. See also Figure 3.6.

Controls over derivative transactions

37. Improvements to the control framework for the Commonwealth's swap program would assist to manage the significant legal, operational and market risks that are inherent in the use of financial derivatives. In particular, ANAO considers:

- added assurance is needed that existing controls are being applied and are effective;
- a more risk-based approach to managing the contractual framework for derivatives trades can reduce legal and credit risks; and
- the Commonwealth's exposure to financial loss could be safeguarded by the AOFM Board requiring the timely review and reporting of significant movements in the net exposures around the mid-point of the relevant benchmark ranges for cross-currency and interest rate swaps, consistent with Treasury's objective of seeking long-term cost savings subject to acceptable short-term cost volatility.

Recommendations

38. ANAO made six recommendations, all of which were agreed to by the AOFM. Treasury endorsed AOFM's comments on the report and responses to the recommendations.

Recommendations

Set out below are ANAO's recommendations with abbreviated responses from the Australian Office of Financial Management and the Department of the Treasury. More detailed responses are shown in the body of the report together with the related audit findings. ANAO considers that the highest priority should be given to implementing Recommendations 1, 2, 5 and 6.

Recommendation No.1 Para. 3.44

ANAO *recommends* that, consistent with its increasing focus on risk management and having regard to the changed economic circumstances since its original analysis and the planned reduction in Commonwealth net debt, the Australian Office of Financial Management:

(a) as part of its ongoing portfolio management activities, continue to evaluate the data and assumptions underlying the target of seeking United States dollar exposures in the debt portfolio;

(b) re-examine the benchmark portfolio targets as part of its next portfolio management consultancy; and

(c) obtain formal Ministerial endorsement of the portfolio benchmark targets.

Australian Office of Financial Management: Agreed.

Department of the Treasury: Agreed.

Recommendation No.2 Para. 3.58

ANAO *recommends* that the Australian Office of Financial Management enhance accountability for its debt management performance by regularly assessing the cost and risk implications of departures from the portfolio benchmark targets and reporting key performance indicators in its Annual Report.

Australian Office of Financial Management: Agreed.

Department of the Treasury: Agreed.

Recommendation No.3 Para. 5.14

ANAO *recommends* that, given the significant risks involved in derivative transactions, the Australian Office of Financial Management undertake periodic internal audits and commission external reviews of the application and effectiveness of the control framework for its use of financial derivatives and take appropriate action if necessary.

Australian Office of Financial Management: Agreed.

Department of the Treasury: Agreed.

Recommendation No.4 Para. 5.29

ANAO *recommends* that the Australian Office of Financial Management improve its management of legal risk associated with derivative transactions by:

(a) prioritising the periodic update of Master Agreements with its major counterparties through amendment agreements or negotiating new Master Agreements;

(b) identifying opportunities to increase the number of Master Agreements that are subject to Australian governing law; and

(c) obtaining greater assurance concerning the power, capacity and due authorisation of counterparties to enter into swap transactions.

Australian Office of Financial Management: Agreed.

Department of the Treasury: Agreed.

Recommendation No.5 Para. 5.43

ANAO *recommends* that the Australian Office of Financial Management enhance the swap tender process by:

(a) electronically recording swap tenders in order to assist resolution of any disagreements with counterparties over swap terms and/or assist enforcement of any undocumented trades;

(b) prioritising its follow-up of outstanding counterparty confirmations according to the age of the transaction, the amount of time before a payment is due, and whether the transaction

involves a credit exposure for the Commonwealth; and

(c) as part of its swap confirmation process, formally checking swap confirmations against lists of authorised signatories supported by resolutions of the counterparty.

Australian Office of Financial Management: Agreed.

Department of the Treasury: Agreed.

Recommendation No.6 Para. 5.76

ANAO *recommends* that, having regard to the significant unanticipated financial losses that can occur due to market risk involving derivatives, the Board of the Australian Office of Financial Management:

(a) enhance existing documentation of the Australian Office of Financial Management's risk management policies and procedures in a comprehensive procedures manual;

(b) ensure that internal controls are periodically independently reviewed;

(c) consistent with the objective of seeking long-term cost savings subject to acceptable short-term cost volatility, require the timely review and reporting of significant movements in the net exposures around the mid-point of the relevant benchmark ranges for cross-currency and interest rate swaps; and

(d) ensure that the Treasurer is consulted on matters of significance which may affect Government decisions on financial exposures.

Australian Office of Financial Management: Agreed.

Department of the Treasury: Agreed.

Audit Findings and Conclusions

1. Introduction

This chapter outlines the background to the audit, the relationship between the key participants in Commonwealth debt management and the audit approach.

Background

1.1 Debt represents an important source of funding but also imposes significant obligations on the Commonwealth over time to pay interest and repay the principal. To ensure effective separation between monetary policy and debt management, the Commonwealth fully funds its budget deficits by borrowing from the short-term money market and the fixed interest market. The Commonwealth is a major participant in the Australian debt market with a $85.5 billion repayment liability as of 30 June 1999 with a market value of $93.9 billion.

1.2 The Commonwealth is also an active participant in the over-the-counter (OTC) derivatives market, entering into interest rate and cross-currency swaps[9] to manage the cost and risk of the debt portfolio by adjusting the duration and currency exposure of the portfolio. The *Loans Securities Amendment Act 1988* gave the Treasurer and nominated delegates specific power to use financial derivatives for debt management purposes. The annual swaps strategy, which is part of the overall debt management strategy, is endorsed by the Treasurer as part of the Budget process.

1.3 Between May 1988 and June 1999, Treasury entered into 332 swap transactions with a notional principal value of around $38 billion. Overall, in the 12 years since it commenced entering into swaps, Treasury reported to ANAO that its swap activities have achieved an aggregate economic gain of $539 million, although there have been significant year-by-year variations in returns. At 30 June 1999, the aggregate Commonwealth swap portfolio consisted of 208 swaps with 25 counterparties with an outstanding notional principal value of around $30 billion. Treasury estimated that the swap portfolio at this time had a negative market value of some $1.3 billion, representing an unrealised loss on outstanding transactions.

1.4 A feature of the debt portfolio is the stated objective to have between 10 and 15 per cent of the market value of the portfolio

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[9] Swaps involve each party to the contract agreeing to exchange (swap) his or her respective payment obligations. These payment obligations are calculated by reference to the notional principal value specified in the swap agreement.

denominated in United States dollars. The Commonwealth has not issued physical debt securities in offshore markets since 1987. Instead, Treasury has deliberately increased its exposure to foreign currency risk through cross-currency swaps on the basis that long-term cost reductions may be achieved by taking on risk associated with exchange rate movements. In this sense, Treasury does not use cross-currency swaps to hedge existing exposures, but creates new exposures as a strategy to reduce debt costs for an acceptable level of risk. A 1996 consultancy found that Treasury's decision to seek a net foreign currency exposure, independent of foreign exchange needs or the need to offset foreign currency assets, is in contrast to the practices of other sovereign debt managers, State treasury corporations and most private sector practice.

1.5 The size of the Commonwealth's debt exposure, combined with the emergence of new products and techniques to manage debt, have increased the risks, challenges and opportunities for the Commonwealth's debt managers. Even small improvements in management practice could have significant positive implications for outlays and future funding and financing requirements.

1.6 The Commonwealth's debt management activities are important to the efficient functioning of Australia's financial markets. Treasury Fixed Coupon Bonds, the Commonwealth's major debt instrument, are the dominant form of fixed interest security in the Australian financial markets. In turn, the fixed interest market plays a key role in the financial system providing: a funding mechanism for governments and corporations; a major investment vehicle for banks, life insurance offices and superannuation funds, other financial intermediaries and companies; a vehicle for the Reserve Bank of Australia's monetary and liquidity management operations; and a benchmark for interest rates.

The debt reduction objective

1.7 By comparison with other industrialised countries, Australia's level of general government net debt[10] is among the lowest in the Organisation for Economic Co-operation and Development (OECD). Nevertheless, in absolute terms, the portfolio of Commonwealth Government Securities on issue represents almost half of all Commonwealth liabilities.[11] Net debt reduction, through ongoing budget

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[10] General government net debt is a comparison measure widely used by international organisations such as the Organisation for Economic Co-operation and Development and ratings agencies. It is calculated by deducting selected financial assets from gross debt for all levels of government except public enterprises that provide goods and services on a market basis.

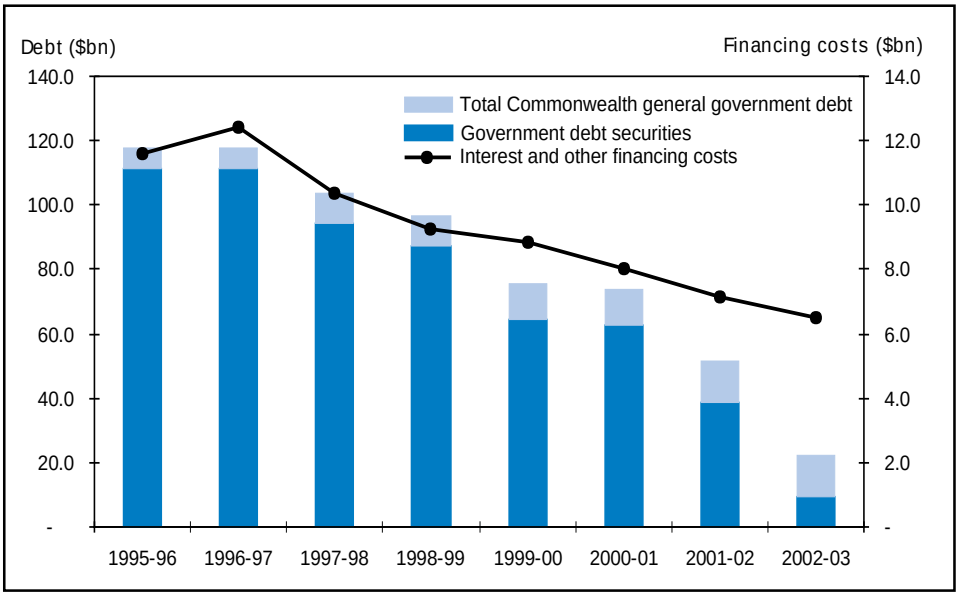
[11] Public debt interest on net Commonwealth Government Securities issued on behalf of the Commonwealth amounted to $7.8 billion in 1997-98, or approximately 6.5 per cent of Commonwealth headline outlays.

surpluses and repaying debt with the proceeds of asset sales, is one of the Government's key priorities. Reducing net debt will lead to ongoing savings in net public debt interest and reduced exposure to changes in financial markets.

1.8 The Government's medium-term fiscal target is to halve the ratio of Commonwealth general government net debt to Gross Domestic Product (GDP) by 2000–01. Commonwealth general government net debt is calculated as gross debt (which is primarily comprised of borrowings) less selected financial assets for all Commonwealth entities except those that provide goods and services on a market basis. It is envisaged that the meeting of the net debt reduction objective may be effected through the repurchase of Commonwealth Government Securities on issue and a program of financial asset acquisition, expected to primarily comprise foreign currency denominated debt securities. As shown by Figure 1.1, the size of the Commonwealth's outstanding debt and related financing costs has begun to reduce, consistent with the Government's debt reduction objective.

Figure 1.1

Commonwealth General Government Debt and Financing Costs: 1995–96 to 2002–03



Source: Actual figures for 1995–96 to 1997–98 from the Commonwealth Government Consolidated Financial Statements for the years ended 30 June 1997 and 30 June 1998. Estimates for 1998–99 and 1999–00, and projections for 2000–01 onwards, are from 1999–00 Budget Paper No.1, *Budget Strategy and Outlook 1999–2000*, pp. 4–8 and 4–9. The Budget Paper figures include the projected impact of the sale of all the Commonwealth's remaining Telstra shares. However, the subsequent passage of the *Telstra (Further Dilution of Public Ownership) Act 1999* amended the *Telstra Corporation Act 1991* to require the Commonwealth to retain 50.1 per cent of the equity interest in Telstra.

Treasury portfolio

1.9 Sovereign debt management is a complex discipline requiring specialist financial skills to complement broader public policy, economics and management skills; sophisticated computer systems to monitor and manage financial risk and funding opportunities; and effective governance arrangements. Recognising that a lack of human and financial resources had constrained its capacity to take full advantage of opportunities to reduce debt service costs and effectively manage risk, in 1996 the Department of the Treasury (Treasury) engaged consultants to examine the institutional arrangements and resourcing for Commonwealth debt management.

1.10 The consultants finalised their report in September 1997, concluding that Treasury had adopted an appropriate debt management philosophy but that the operating, measurement and organisational frameworks needed to be upgraded in line with this philosophy. The most significant recommendation related to the establishment of a specialist agency to provide greater flexibility in the staffing and other resources for managing the Commonwealth's debt portfolio, whilst maintaining a balance between public policy sensitivities and a focus on financial markets and risk management.

1.11 Following Treasury consideration of the review report, the Government announced in the 1999–2000 Budget its intention to establish within the Treasury portfolio a specialist agency to be known as the Australian Office of Financial Management (AOFM). The AOFM is a prescribed agency under the *Financial Management and Accountability Act 1997* and from 1 July 1999 assumed responsibility for the Commonwealth's existing debt management activities.

1.12 The funding provided in the Budget allows for staffing and resources additional to those of Treasury's Debt Management Office which the AOFM replaces. In addition, a capital injection would be made to fund the acquisition of specialist financial management computer software and hardware necessary to support the Office's operations. The Government expects that the new agency will significantly enhance the Commonwealth's capacity to manage its net debt portfolio, offering the prospect of savings in debt service costs and an improvement in balance sheet worth over time.[12]

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[12] Budget Related Paper No. 1.16, *Portfolio Budget Statements 1999-2000, Treasury Portfolio*, p. 16.

Reserve Bank of Australia

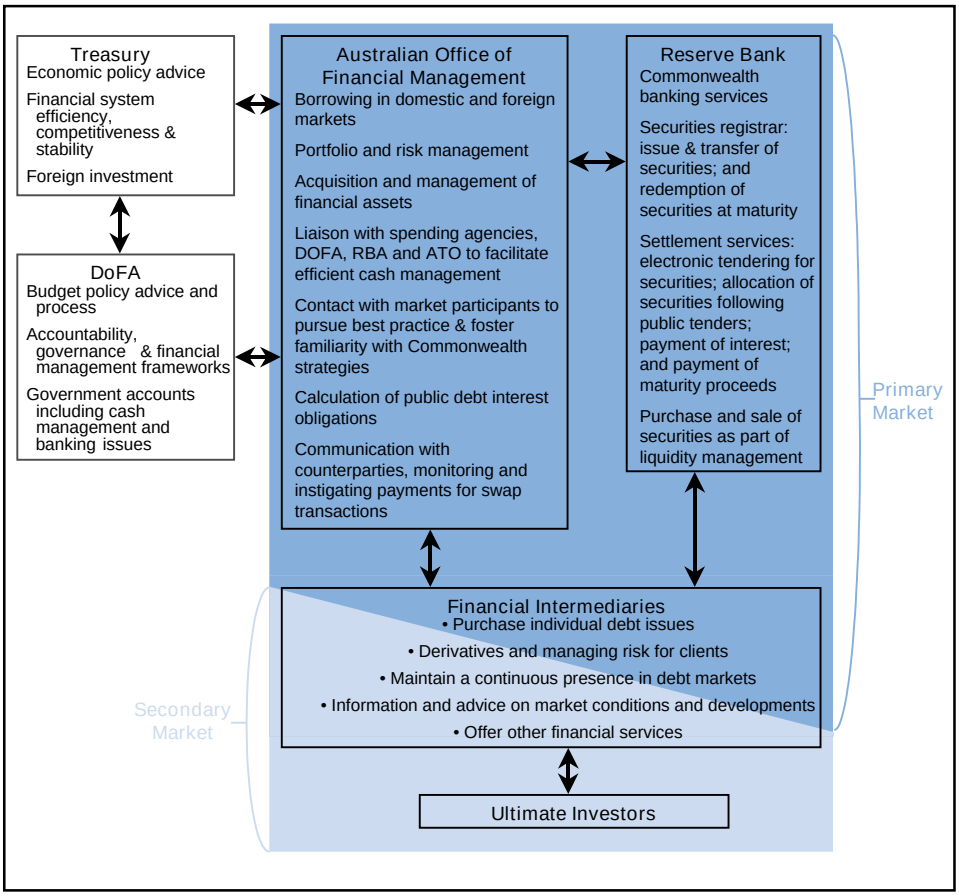
1.13 The Reserve Bank of Australia operates in domestic financial markets as the Commonwealth's debt management agent. As a result of recent Budget surpluses and asset sales, Treasury has requested that the Bank repurchase from the market a significant volume of stock which has then been on-sold to the Commonwealth in order to reduce net debt. In addition, as the Commonwealth's agent, the Bank conducts tenders for the issue of Commonwealth Government Securities and conducts registry operations, effecting interest and principal payments to investors in Commonwealth Government Securities. The Bank implements monetary policy using 'open market' operations to influence the supply of funds to the banking system. These open market operations can involve the buying and selling of Commonwealth Government Securities on either an outright or repurchase basis. The relationship between Treasury, the Reserve Bank, the Department of Finance and Administration (DoFA) and other key players in Commonwealth debt management is depicted in Figure 1.2.

Audit approach

1.14 ANAO considered that a performance audit of Commonwealth debt management would provide enhanced assurance to the Government and Parliament about the management of the debt portfolio and could identify opportunities for improvement. The specific audit objectives were to:

- review, and consider opportunities to improve, the reporting and disclosure of the Commonwealth's public debt;
- assess the effectiveness of the raising, management and retirement of Commonwealth debt, consistent with an acceptable degree of risk exposure; and
- determine whether there are opportunities to improve the Commonwealth's approach to raising, management and retirement of Commonwealth debt.

Figure 1.2
Commonwealth Debt Management—Institutional Arrangements



Source: ANAO analysis

Audit scope

1.15 The scope of the audit included management of Commonwealth Government Securities and OTC derivative transactions. Excluded from the audit was debt issued on behalf of the States (the payments on this debt are met by the States) and Income Equalisation Deposits (administered and reported by the Department of Agriculture, Fisheries and Forestry). The audit scope ensured coverage of more than 90 per cent of all Commonwealth issued debt.

116 The audit scope included examination of Treasury's use of interest rate and cross currency swaps. ANAO relied on Treasury data in relation to the valuation and reporting of the swap portfolio. Treasury does not have the facilities to record swap tenders conducted by telephone. Instead, Treasury has a policy of asking each bidder in a swap tender to confirm their bid by facsimile after the telephone tender has been

completed. The audit scope was limited because facsimile bid confirmations did not exist for 22 per cent of unsuccessful bids in the sample of 176 swap tenders examined by ANAO.[13] Treasury advised ANAO that this was despite its practice to follow up with counterparties the provision of such bid confirmations. This issue is discussed in Chapter 5 of the report.

1.17 The scope of ANAO's performance audit is reflected in Figure 1.3, which also outlines the structure of the audit report. Banking and securities law specialists from Blake Dawson Waldron[14] provided legal advice to inform ANAO's examination of the legal framework for Treasury's use of financial derivatives and the terms of debt security prospectuses. To assist ANAO examine the technical input into Treasury's portfolio management approach, ANAO engaged Macquarie University's Centre for Studies in Money, Banking and Finance[15] to provide advice on strategic and technical issues concerning debt management. The audit was conducted in accordance with the ANAO Auditing Standards at an estimated cost to the ANAO at the time of tabling of $280 000.

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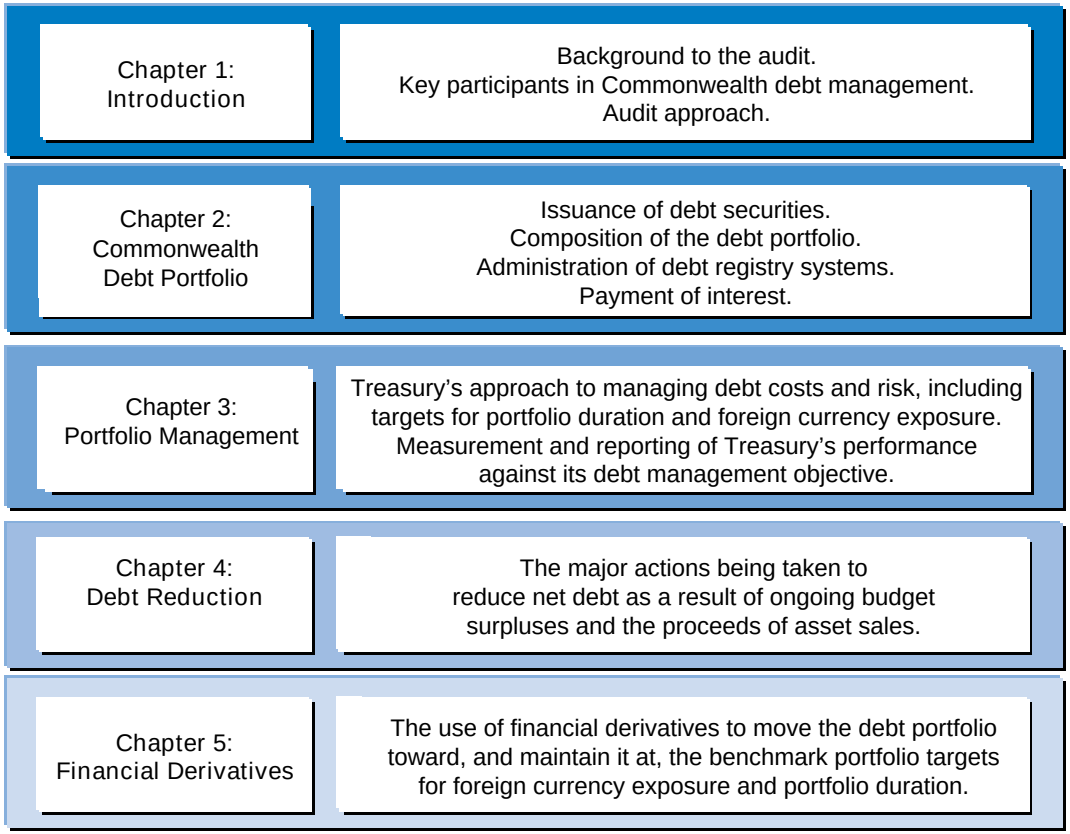
[13] Australian Auditing Standard AUS 806 states that the objective of a performance audit is to enable the auditor to express an opinion whether, in all material respects, all or part of an entity's operations have been carried out economically, efficiently and/or effectively. Any limitations on the scope of the auditor's work, and the reasons for the limitation, are required to be described in the audit report.

[14] Selected from ANAO's panel of legal advisers.

[15] The consultant was selected from a list of suitably qualified consultants provided by Treasury.

Figure 1.3
Report Outline



2. Commonwealth Debt Portfolio

This chapter discusses the issuance of debt securities, the composition of the Commonwealth debt portfolio, administration of relevant debt registry systems and the payment of interest.

Introduction

2.1 Since Federation, the Commonwealth has issued a wide range of debt instruments to finance its expenditure programs.[16] The Commonwealth's domestic debt securities are issued as stock under the *Commonwealth Inscribed Stock Act 1911*.[17] Two instruments comprise the majority of securities on issue:

- Treasury ***Fixed Coupon Bonds*** are the Commonwealth's major debt instrument. Stock is issued with maturities extending to 12 years. Fixed Coupon Bonds underpin the viability of the 3 year and 10 year futures contracts. The rate of interest (coupon) is fixed over the life of the security and interest is calculated on the nominal face value, which is repayable on maturity; and
- ***Treasury Notes*** which are the Commonwealth's primary cash management instrument, being issued to borrow short-term funds from the money market to cover forecasted temporary cash shortfalls because of timing mismatches between revenue receipts and disbursements on outlays and debt repayment. Treasury Notes are issued at a discount to their face value, with the face value repaid at maturity, which can be 5 weeks, 13 weeks or 26 weeks after they were issued. The discount represents the interest component of the transaction.

2.2 The other major instruments on issue as at 30 June 1999 comprise Capital Indexed Bonds ($6.5 billion repayment liability) and Adjustable Rate Bonds ($4.3 billion repayment liability). Capital Indexed Bonds are a medium to long-term security which transfer inflation risk from the investor (bondholder) to the Commonwealth. The principal value is indexed to inflation with quarterly interest payments calculated as a fixed percentage of the current inflation-indexed value of the principal.

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[16] Agreement exists between Treasury and the Reserve Bank that places strict controls on access to the Reserve Bank's overdraft facility as well as imposing a market-related interest rate on use of the overdraft facility.

[17] The Commonwealth Inscribed Stock Act provides for the creation and issue of stock and its inscription. It is supported by Commonwealth Inscribed Stock Regulations.

Adjustable Rate Bonds are also a medium to long-term security with the interest rate adjusted quarterly in line with movements in bank bill rates.

2.3 In addition to issuing primary debt securities into the Australian market, Treasury uses interest rate swaps to adjust the Australian dollar portfolio mix of floating interest rate exposure and fixed interest rates. Issuance of foreign currency denominated securities is governed by the *Loans Securities Act 1919*. Treasury uses the domestic market as its primary funding source and has not issued physical debt securities in offshore markets since 1987. Treasury uses cross-currency swaps to achieve exposure to foreign currency denominated debt as part of its portfolio management approach.

2.4 The objective of debt issuance is to fulfil borrowing requirements whilst obtaining the best possible issue terms under given circumstances.[18] Treasury uses multiple price tenders for all its debt securities, which enables bidders to submit several bids with different price/amount combinations. This approach provides an effective means of establishing a market price for the issue, with each successful bidder paying the price they bid. This approach also maximises the opportunity to obtain bids for a sufficient quantity of stock to fill the tender.

2.5 Treasury retains significant discretion regarding the timing and composition of debt issuance. Its decisions on these matters are guided by an annual borrowing strategy that is approved by the Treasurer, usually as part of the budget process. This strategy may be modified during the financial year if circumstances change. Treasury endeavours to hold Treasury Fixed Coupon Bond tenders at regular intervals to maximise transparency and predictability (which is expected to reduce issuance costs by minimising any risk premiums included in tender pricing). Tenders for Treasury Indexed Bonds and Treasury Adjustable Rate Bonds are tailored to market circumstances whereas Treasury Note tenders are usually held weekly but may be deferred if funding is not required.

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[18] Organisation for Economic Co-operation and Development, *Government Securities and Debt Management in the 1990s*, 1993, p. 42.

Debt reporting

2.6 Liabilities may be defined as the future sacrifices of economic benefits that the entity is presently obliged to make to other entities as a result of past transactions or other past events.[19] They include financial instruments (such as bonds) that give rise to a contractual obligation on the part of the issuer to deliver cash or another financial asset.[20] The central feature of a debt liability is that it involves an obligation to repay an amount that is reasonably likely to equal or exceed the amount initially borrowed. Debt liabilities are required to be recognised in the financial statements where it is probable that the obligation will need to be satisfied and the liability can be reliably measured.[21]

2.7 As of 30 June 1999, based on data from Treasury and the Reserve Bank, ANAO calculated the repayment liability of the aggregate Commonwealth debt portfolio administered by Treasury to be $85.5 billion (see Figure 2.1). The repayment liability exceeded the face value of the securities on issue because the repayment liability for Capital Indexed Bonds is the face value plus cumulative inflation adjustments to the face value. Excluding this adjustment, the face value of those securities on issue at 30 June was estimated to be $84.6 billion.

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[19] Statement of Accounting Concepts SAC4 *Definition and Recognition of the Elements of Financial Statements*, para. 48.

[20] Australian Accounting Standard AAS33 *Presentation and Disclosure of Financial Instruments*, para. 4.1.3.

[21] Statement of Accounting Concepts SAC4 *Definition and Recognition of the Elements of Financial Statements*, paras. 65–69.

Figure 2.1

Estimated Liability for Commonwealth Marketable Debt: 30 June 1999

	Repayment Liability $bn	*Market Value $bn*
Domestic Currency Debt Securities		
Fixed Coupon Bonds	65.178	73.272
Treasury Notes [A]	7.001	6.952
Indexed Bonds [B]	6.466	6.688
Adjustable Rate Bonds	4.300	4.335
Other Marketable Domestic Debt	0.567	0.577
Other Non-marketable Domestic Debt [C]	0.010	0.010
Total Australian Dollar Debt Securities	**83.522**	**91.834**
Foreign Currency Public Issues and Loans	**0.633**	**0.722**
Swap Derivatives		
Australian dollar	(9.678)	(9.825)
Foreign currency	11.020	11.121
Total Swap Derivatives	**1.342**	**1.296**
Total Marketable Debt Portfolio	**85.497**	**93.852**

Notes:

[A] These instruments are issued at a discount to their face value, with the face value repaid at maturity. The discount represents the interest on Treasury Notes.

[B] Comprises Capital Indexed Bonds of $6.466 billion and Interest Indexed Bonds of $86 000. As of 30 June 1999, there were four Capital Indexed Bond maturities on issue for the Commonwealth: August 2005; August 2010; August 2015; and August 2020. For Capital Indexed Bonds, the principal value appreciates with the rate of inflation, thereby transferring inflation risk from the investor (bondholder) to the issuer (the Commonwealth). Investors receive quarterly coupon interest payments over the term of the stock, which are calculated as a fixed percentage of the current inflation-indexed value of the principal. The inflation indexation of the principal results in a variable cash flow pattern, with the payment of inflation adjusted principal at maturity. The figure of $6.466 billion comprises: the $5.603 billion face value of the bonds on issue as of 30 June 1999; and accrued actual inflation adjustments of $0.863 billion up to 30 June 1999 for the bonds on issue at this time. As future inflation rates are not certain, reliable measurement of the present obligation of the Commonwealth in respect of the future redemption cost of Capital Indexed Bonds involves estimating the future inflation adjustments. ANAO estimated future inflation adjustments to those bonds on issue as at 30 June 1999 using inflation forecasts and extrapolations of these forecasts.[22] Including this estimate would increase the 30 June 1999 repayment liability for Capital Indexed Bonds by $2.854 billion to $9.320 billion and the overall repayment liability for the debt portfolio to $88.351 billion.

[C] Comprises overdue debt. Market value is assumed to equal the face value.

Source: Treasury valuation of the Commonwealth's debt portfolio as at 30 June 1999 adjusted by ANAO analysis of data from Treasury and the Reserve Bank.

[22] Namely: published Consumer Price Index figures up to and including the June 1999 quarter; Consumer Price Index forecasts from Access Economics' *Five Year Business Outlook, December Quarter 1998* for the period to 2002; and the final Access Economics forecast of 2.2 per cent inflation for 2002 extrapolated forward to 2020.

2.8 As of 30 June 1999, Treasury's market valuation of the debt portfolio was $93.9 billion, which exceeded by some 10 per cent the face value of the securities on issue.[23] The current low nominal interest rate environment makes the relatively high coupons on the Commonwealth's long-term marketable debt more attractive to investors, increasing its market price above the face value.

2.9 **Finding:** Debt securities represent a present contractual obligation on the Commonwealth to pay in the future an amount that is reasonably likely to equal or exceed the amount initially borrowed. ANAO estimated that the 30 June 1999 repayment liability for Commonwealth Government Securities on issue and administered by Treasury was $85.5 billion. At this time, the market value of the debt portfolio was estimated by Treasury to be $93.9 billion, or some 10 per cent more than the face value of the securities on issue.

Debt registry operations

2.10 The Reserve Bank provides registry services in relation to the Treasury's Australian dollar denominated debt securities. These services are outlined in a December 1996 Memorandum of Understanding and comprise:

- ***Conduct of competitive tenders***[24] whereby bids are submitted and stock allocated via the Reserve Bank's Information and Transfer System (RITS).[25] The tender process involves the Bank distributing prospectuses to its branch offices and receiving tender bids. These bids are evaluated by Treasury before it determines the allocation of stock which is then advised to bidders by the Bank. The Bank also informs bidders of the settlement amount which is to be paid to the Bank on behalf of Treasury.
- Arranging the ***payment of interest*** and ***repayment of principal*** at maturity. Reimbursements are submitted to Treasury.

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[23] The market value includes the net present value of coupon rates in excess of the current yield curve and the net present value of debt principal. The repayment liability and face value includes only the principal value of the debt liability.

[24] Treasury has refined its bond tender procedures over recent years. Firstly, the period between the decision to conduct a tender and the deadline for acceptance of bids has been reduced thereby ***reducing the Commonwealth's exposure*** to possible adverse changes in market conditions. Secondly, ***more competitive bids*** have been encouraged by reducing the time between acceptance of bids and the public announcement of tender results from three hours to one and a quarter hours, thereby reducing the exposure of bidders to movements in market yields.

[25] RITS was introduced in 1991 and is similar to the Austraclear system which provides depository, clearing and settlement facilities to the securities markets.

- Maintaining and ***administering the debt register***, including registering transfers of stock.

2.11 The Reserve Bank invoices Treasury on a six monthly basis for the costs of its registry services. There have been substantial reductions over time in the payments made to the Reserve Bank. For example, the $2.3 million paid in 1997–98 represents a one-third reduction from the 1993–94 cost of $3.45 million. Significant savings have been achieved through Reserve Bank staff rationalisations and registry computer system enhancements. The cost reductions also reflect a decline in activity levels associated with the reduction in Commonwealth debt issuance.

2.12 All domestic debt is recorded on the Reserve Bank's debt registry systems. The Bank does not provide registry systems for foreign currency denominated debt. Instead, Treasury maintains a register of pre–1987 foreign currency loans and debts assumed by the Commonwealth following asset sales, with registry services outsourced to private sector providers. The major outstanding items in this latter category are those liabilities assumed as a result of the sale of Qantas, the sale of the Brisbane, Melbourne and Perth airports[26] and the sale of the Australian National Railways Commission's interstate passenger and intrastate rail businesses[27].

2.13 **Finding:** The Reserve Bank has reduced its registry fees to Treasury by one-third in the period 1993–94 to 1997–98. The cost reductions reflect operational efficiency gains and a decline in activity levels associated with the reduction in Commonwealth debt issuance.

Interest payments

2.14 Public Debt Interest (PDI) outlays represent the cost of servicing the stock of Commonwealth debt. In 1997–98, Commonwealth PDI outlays were $7.8 billion, representing 6.5 per cent of total Commonwealth headline outlays and 1.4 per cent of Gross Domestic Product.[28] The major component of PDI is payments on the Commonwealth's marketable securities (see Figure 2.2). Figure 2.2 illustrates the importance of Fixed Coupon Bonds as a funding instrument with Treasury primarily obtaining exposure to floating rates through its swap program rather than through direct issuance of floating rate Commonwealth Government Securities.

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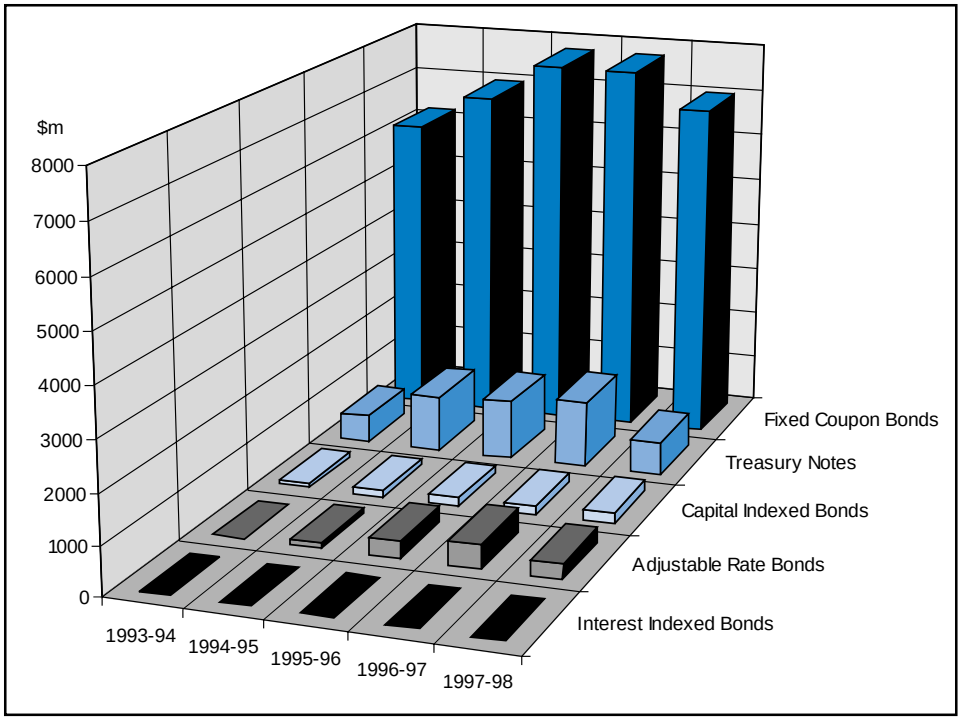
[26] Further details of the assumption of the FAC's domestic bonds and Eurobonds are included in Audit Report No.38 1997–98, *Sale of Brisbane, Melbourne and Perth Airports*, pp.58–61.

[27] Further details of the repayment and assumption of Australian National's financial obligations are included in Audit Report No.28 1998–99, *Sale of SA Rail, Tasrail and Pax Rail*, p. 24 and pp.42–45.

[28] The Treasury, *Commonwealth Debt Management 1997–98*, p.32.

Figure 2.2
Interest on Treasury Bonds and Notes: 1993–94 to 1997–98



Source: ANAO analysis of information provided by Treasury and the Reserve Bank.

2.15 Prospectuses issued by the Treasurer under the Commonwealth Inscribed Stock Act detail the methodology to be applied in calculating interest payments and the amount to be repaid at maturity for each of the Commonwealth's debt securities (see Figure 2.3).

Figure 2.3
Interest calculations for Commonwealth Government Securities

	Interest Rate	*Payment Frequency*	*Capital Value for Interest Calculation*	*Repayment at Maturity*
Fixed Coupon Bonds	Fixed rate specified in tender announcement	Semi-annually in arrears	Face Value	Face Value
Treasury Notes	Difference between issue price and face value represents entire interest cost	Paid at maturity	Not applicable	Face Value
Adjustable Rate Bonds	Adjusted quarterly in line with movements in Bank Bill rates.	Quarterly in arrears	Face Value	Face Value
Capital Indexed Bonds	Fixed rate specified in tender announcement	Quarterly in arrears	Face Value adjusted for Consumer Price Index (CPI) movements	Face Value adjusted for CPI movements

Source: ANAO analysis of data from the Reserve Bank.

2.16 Between 1 July 1993 and 31 December 1998 more than 175 000 interest payments with a total value of over $41 billion were made on Commonwealth Government Securities on behalf of Treasury by the Reserve Bank. The major component was $38.7 billion paid on Fixed Coupon Bonds. Not included in these payments is interest on Treasury Notes. As a zero coupon security, Treasury Notes are issued at a discount to their face value, with the face value repaid at maturity. The discount represents the interest on Treasury Notes.

2.17 ANAO discussed with the Reserve Bank the steps it takes to ensure the correct amount of interest is paid on Commonwealth Government Securities. Because of the quantum of Commonwealth expenditure involved, and the potential for a system error to have materially adverse financial consequences for the Commonwealth, ANAO also sought from the Reserve Bank interest payment data for Commonwealth Inscribed Stock for the period 1 July 1993 to 31 December 1998.

2.18 As a result of ANAO's request, the Reserve Bank conducted a reconciliation of Commonwealth interest payments, which was examined by ANAO. Whilst some very minor differences were identified by the Reserve Bank, further investigation by the Bank concluded that no errors had been made by the Bank in either payments to stockholders or

reimbursement claims submitted to Treasury. ANAO's examination of the Treasury reconciliation identified no errors.

2.19 Finding: Prospectuses issued by the Treasurer under the Commonwealth Inscribed Stock Act detail the methodology to be applied in calculating interest payments and the amount to be repaid at maturity for each of the Commonwealth's debt securities. Between 1 July 1993 and 31 December 1998 more than 175 000 interest payments with a total value of over $41 billion were made on Commonwealth Government Securities on behalf of Treasury by the Reserve Bank. ANAO can provide reasonable assurance, based on audit procedures that included examining evidence supporting the calculation of interest on Treasury bond series' for the period 1 July 1993 to 31 December 1998, that the correct amount of interest was paid.

3. Portfolio Management

This chapter discusses Treasury's approach to managing the cost and risk of the debt portfolio and examines the measurement and reporting of Treasury's performance against its debt management objective.

Introduction

3.1 Treasury's debt management objective is to raise, manage and retire Commonwealth debt at the lowest possible long-term cost, consistent with an acceptable degree of risk exposure.[29] Debt management is undertaken through: the issue of various borrowing instruments; the redemption and early repurchase of Commonwealth Government Securities; the formulation and undertaking of portfolio management; and assessing the budgetary cost of the debt portfolio.

3.2 The Commonwealth's debt management decisions can have a significant effect on financial market confidence as well as overall financial stability because of: the relative size of the Commonwealth debt portfolio; the Commonwealth's status as the monopoly supplier of risk free credit; the role played by the Treasury yield curve as a market pricing benchmark; and the use of Commonwealth Government Securities as a hedging vehicle in the market. Accordingly, Treasury is obliged to forego the potential short-term gains associated with exploitation of its relative size advantage in favour of the longer-term benefits of market confidence, liquidity and lower funding costs that accrue to responsible management.

3.3 The Commonwealth Government, in its policy setting role, has the capacity to directly influence key financial market prices. The actions of the sovereign debt manager and its approach to the market can have potentially significant implications for the conduct of policies and for the reputation of the government and agencies responsible for advising on policy settings. Handled insensitively, or over-aggressively, there is the potential for the debt management transactions of a sovereign debt manager to be interpreted by other financial market participants as signalling the future direction of, say, monetary policy settings. For this reason, Treasury has adopted an approach to debt management that is not reliant, or seen to be reliant, on 'taking views' about the future direction of interest rates.

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[29] The Treasury, *Annual Report 1997–98*.

3.4 To assist in minimising the scope for the financial markets to misinterpret the intent behind debt management operations, it is important that the Commonwealth make very clear its broad philosophical approach and operating framework with regard to its debt management interactions with the market. Consistent with this, Treasury has: adopted a transparent and predictable approach to issuing debt; made regular presentations on its debt management strategy to the Australian Financial Markets Association; and included a detailed discussion of its portfolio management approach in its annual *Commonwealth Debt Management* report.

Debt management risks

3.5 The Commonwealth is exposed to five interdependent risks in its debt management operations (see Figure 3.1). Treasury has moved increasingly in recent years to conduct its debt management responsibilities within an explicit risk management framework. This reflects, in large part, the 'commercial' imperatives of modern day sovereign debt management, the large exposures to balance sheet financial risk implicit in the debt management function, and the business requirement to manage these risks in a proficient and comprehensive manner. Treasury's philosophical approach puts the Commonwealth close to the forefront of OECD practice in sovereign debt management.

Figure 3.1
Debt management risks

	Definition	*Treasury objective*
Funding risk	The ability to raise funds when required in an orderly manner and without penalty.	Ensure continued market access on favourable terms such that funding requirements are realised in a cost-effective manner.
Market risk	The impact of changes in interest and exchange rates on the ongoing cost and value of the debt portfolio.	A hypothetical portfolio benchmark has been established to serve as a target for the actual debt portfolio. The objective is to manage the actual portfolio so as to match the benchmark as closely as possible. Portfolio structure is managed through debt issuance and the use of derivative products.
Liquidity risk	The ease with which one financial claim can be exchanged for another.	Maintaining a diverse investor base, sufficient depth and liquidity in individual debt instruments, and an efficient yield curve.
Credit risk	The risk that a counterparty may default on its obligations leading to a financial loss for the Commonwealth.	The Swap Counterparty Credit Policy establishes minimum credit rating criteria for acceptable counterparties, and differential market and potential exposure limits for various institutional counterparty types at different ratings points.
Operational risk	The potential for losses to arise from the transaction, settlement and resource management processes associated with personnel, hardware and software systems, internal controls and legal advice.	Avoid all operational losses by ensuring appropriate segregation of duties, engaging consultants to provide financial market software and development of procedure manuals. Implementation of the recommendations of the 1996 consultancy review of debt management institutional arrangements and resourcing is also expected to assist.

Source: ANAO analysis of Treasury data.

3.6 Finding: The Commonwealth is exposed to a number of significant risks in its debt management operations including those related to the ability to raise funds when required in an orderly manner and without cost penalty and the potential impact of changes in interest and exchange rates on the cost of the debt portfolio. Treasury has moved increasingly in recent years to conduct its debt management responsibilities within an explicit risk management framework. This philosophical approach puts the Commonwealth close to the forefront of OECD practice in sovereign debt management.

Portfolio management

3.7 Since 1989,[30] Treasury has retained consultants to advise on management of the Commonwealth debt portfolio. In March 1995, Treasury invited expressions of interest via public advertisement and letters to parties known to be interested in advising on the management of the Commonwealth debt portfolio. The invitation sought a consultant to: advise and assist in the development of a theoretical, risk neutral benchmark portfolio to underpin formal portfolio management performance evaluation; and provide regular input and advice to Treasury on the formulation and assessment of possible tactical variations around that benchmark structure, consistent with underlying portfolio management objectives.

3.8 Expressions of interest were received from 21 applicants, five of whom were shortlisted. An Assessment Panel of Treasury officers then assessed the five shortlisted proposals against nine selection criteria. Of primary importance to the Panel was that the chosen consultant be capable of providing services that addressed the task in a highly rigorous, transparent, accessible and user friendly manner.[31] In September 1995, the Quantitative Finance Group of UBS Ltd[32] was selected as Treasury's new portfolio management consultant.

3.9 A 12 month contract was signed with UBS Ltd on 1 December 1995 for a total fee of $425 000.[33] The objective of the consultancy was to provide the Commonwealth with portfolio management advice and with a portfolio valuation and performance measurement and risk management framework. In accordance with the contract, UBS developed, with involvement by Treasury, a long term portfolio benchmark. Other deliverables included the transfer of computer technology (including a portfolio valuation model, performance measurement model and swap counterparty risk model) and skills to Treasury.

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30 JP Morgan won the initial tender in 1989 and had their contract renewed until 1994.

31 Accordingly, five criteria were considered very important, namely: the rigour and justification of the methodological approach; user friendliness; accessability of the model/consultant advice; adaptability/flexibility of the approach; systems for performance measurement and four criteria were considered important, namely: demonstrated research and development capacity; quality of 'dummy runs' and presentation to Treasury's Assessment Panel; the professionalism, competence, resources and previous relevant performance of the entity involved; and cost.

32 In 1998 the Union Bank of Switzerland (UBS) and Swiss Bank Corporation merged to form UBS AG. The investment banking arm of UBS is Warburg Dillon Read, which includes the original UBS Quantitative Finance Group, appointed as portfolio management advisers to Treasury in 1995. In this report, the consultant will be referred to as UBS.

33 The fee comprised components for provision of the portfolio management model ($173 000), construction of a long run benchmark ($152 000) and provision of portfolio management advice ($100 000). Payments were linked to milestones with $325 000 to be paid following completion of the first two components and $100 000 following completion of the third component.

3.10 Treasury entered into a further one year contract with UBS in December 1996 requiring the provision of portfolio management computer software, further development of the long run risk neutral benchmark, and provision of portfolio management. Payment of the $400 000 fee was to be in three instalments linked to the contract deliverables.[34] Due to the complexities of the issues, and with the agreement of the Project Officer, the term of the contract was extended to provide additional time for the consultant to complete the specified services. UBS was paid its fee of $400 000 in November 1998.

3.11 **Finding**: Treasury's debt portfolio target benchmark is underpinned by quantitative portfolio analysis, undertaken in part by specialist consultants contracted by Treasury.

Target portfolio

3.12 Portfolio management is concerned with managing the ongoing cost and risk of the Commonwealth debt portfolio. This requires a focus on changes in interest rates and exchange rates as these variables can have a significant impact on borrowing costs. A benchmark portfolio assists with managing these market risks by quantifying the debt management objective and assisting measurement of performance against the objective.

3.13 A comprehensive consultancy report titled *A Benchmark for the Commonwealth Debt Portfolio* was completed by UBS in May 1996 and presented to the Treasury Management Group in July 1996. This report assessed the long term cost and risk consequences of a large number of plausible debt portfolio structures to identify the broad portfolio characteristics that could be expected to minimise the long term cost for an acceptable level of risk. The report noted that, while other possible benchmark portfolios could out-perform Treasury's benchmark portfolio, no other portfolio could be reasonably expected to out-perform it in the longer term. The consultant established the robustness of the benchmark by testing to confirm it was not overly sensitive to the underlying assumptions.

3.14 In summary, the consultant recommended a benchmark with the composition indicated in Figure 3.2 with a recommendation that the actual debt portfolio be kept within the bounds indicated. The portfolio benchmark specifies the target characteristics for the debt portfolio in terms of: the proportion of Australian and foreign currency denominated debt; and the balance between fixed and floating interest rate exposure,

[34] Treasury required the consultant to bear exchange rate risk on the contract by specifying the fee in Australian dollars. This was done, at no cost to Treasury.

reflected in the modified duration for the Australian dollar and foreign currency components.

Figure 3.2
Portfolio Benchmark

Currency	Efficiency (%) [a]			Risk (years) [b]		
	Lower bound	Proportion	Upper bound	Lower bound	Modified duration	Upper bound
Australian Dollar	(85 ⟵	87.5 ⟶	90)	(3.00 ⟵	3.25[c] ⟶	3.50)
United States Dollar	(10 ⟵	12.5 ⟶	15)	(1.00 ⟵	1.25[d] ⟶	1.50)

Notes:

[a] Represents the proportion of the portfolio held in a specific currency, either through debt issuance or derivative transactions (cross-currency swaps).

[b] Calculated as the modified duration, which represents the present value time weighted average period to maturity of the cash flows on the debt. Modified duration is a measure of the interest rate sensitivity of the debt portfolio.

[c] A modified duration of 3.25 for Australian dollar debt corresponds to 21 per cent of Australian dollar denominated exposure being held in floating rate debt (debt subject to resets of short term rates such as Treasury Notes, Treasury Indexed Bonds, Treasury Adjustable Rate Bonds and the floating sides of all swaps in Australian dollars).

[d] A modified duration of 1.25 for United States dollar debt corresponds to holding 72 per cent of United States dollar debt in variable rate securities.

Source: *A Benchmark for the Commonwealth Debt Portfolio*, Quantitative Finance Group, UBS, May 1996, p. 1.

3.15 Treasury advised ANAO that it has attempted to maintain the actual debt portfolio within the ranges recommended and has adopted the ranges as its targets rather than the precise currency proportion and duration targets included in the consultant's recommendation. Treasury considered that adopting the mid-points of the recommended ranges as its target would suggest a greater degree of precision than is dictated by the benchmark analysis.

3.16 The stated purpose of the portfolio benchmark is to specify the optimal exposure to foreign currencies and interest rates (as measured by modified duration) to achieve Treasury's debt management objective.[35]

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[35] In this context, the portfolio benchmark adopted the following measures of cost and risk:

- a ***market measure of cost***, measured as a yield in percentage points, was adopted so as to fully capture the long-term cost of debt. This takes account not only of the current year's public debt interest costs but also the cost of expected future liabilities. Accordingly, all liabilities are 'marked-to-market', which means they reflect the current market value of future cash flows. This approach takes account of opportunity gains and losses in markets and therefore recognises the economic benefit or otherwise from debt management decisions; and
- reflecting the uncertainty that debt management poses for the Budget, risk is measured in terms of the ***probability of achieving a target or threshold debt financing cost***. Debt financing costs comprise public debt interest costs plus amortised capital gains and losses on foreign currency exposure and inflation indexed debt. Compared with public debt interest, capital gains and losses are recognised as they occur rather than at maturity and foreign exchange gains and losses are included.

The benchmark plays a role as a target towards which new debt issuance and Commonwealth swap activity has adjusted the composition of the debt portfolio over time. Treasury's approach of managing to the benchmark means that it does not attempt to outperform the benchmark by taking views on exchange rates and interest rates. Treasury considers that this approach recognises that what may appear to be a value maximising strategy for the Commonwealth in the shorter term could actually increase investor uncertainty and, as a result, increase the risk premium attached to Commonwealth debt. This could increase the longer-term costs of raising Commonwealth debt.

3.17 The annual swaps strategy is used to move the portfolio towards the portfolio benchmark targets. The swaps strategy, which is part of the overall debt management strategy, is endorsed by the Treasurer as part of the Budget process. However, the Minister has not to date been asked to formally endorse the actual portfolio benchmark targets. Given the importance of the targets to management of the Commonwealth's debt portfolio, ANAO considers there is merit in obtaining formal Ministerial endorsement of these targets.

3.18 In June 1998 a review of the benchmark was completed by UBS in the light of changes to Australia's debt and fiscal position as well as changes to financial markets and recent experience with employing a benchmark strategy. The report concluded that the conservative assumptions underpinning the May 1996 report remained consistent with recent financial market moves and with market expectations. The consultant recommended that the portfolio be split into two parts as soon as major cash surpluses could be foreseen with confidence: the benchmark would continue to apply to that portion of the portfolio that is not targeted for repayment; while the remainder could be handled cost-effectively through a tactical combination of defeasance/ immunisation,[36] anticipatory hedging and debt repurchase.

Portfolio duration

3.19 Portfolio duration (that is, the maturity structure of the portfolio) and interest rate exposure are intertwined. The longer the modified duration, the longer the period the Commonwealth is insulated against increases in interest rates. However, this also means that the Commonwealth has greater exposure to rates declining, resulting in the cost of the Commonwealth's debt exceeding market rates.

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[36] Defeasance involves a borrower paying an amount to a third party in return for the third party assuming responsibility for the original debt. Immunisation matches the maturity of the debt instruments to the assets being funded, virtually removing interest rate risk as changes in rates are neutralised.

3.20 Treasury has had a broad benchmark target for the domestic interest rate exposure of the debt portfolio since 1992–93. The initial interest rate target was a split of 75 per cent fixed interest rates and 25 per cent floating interest rates. UBS' May 1996 portfolio benchmark consultancy report re-defined interest rate risk in terms of modified duration,[37] which was seen to be a more precise measure of this risk. This consultancy report concluded that the exposure to domestic floating interest rates is the key influence in determining portfolio risk.

3.21 Treasury's target modified duration is between 3.0 and 3.5 years for the Australian dollar component of the debt portfolio.[38] ANAO was advised that a modified duration of 3.5 years is popular among debt managers due to its links with mean reversion theories[39] of long term interest rate movements. Accordingly, Treasury's duration target for the portfolio appears broadly similar to that adopted by other debt managers, although the similar targets may be based on different analysis.

3.22 Most of Treasury's primary debt instruments involve fixed interest rates where the cash flows are known in advance. This means that domestic duration is not easily altered once debt has been issued.

3.23 The primary means for adjusting portfolio duration closer to the benchmark has been Treasury's program of cross-currency and interest rate swaps. In particular, Treasury has used these swaps to exchange fixed payments for floating payments thereby reducing the portfolio duration.[40] There are, nonetheless, operational limitations on the swap program related to the value of the swaps that can be entered into without significantly affecting the markets and Treasury's internal limits on exposure to individual swap counterparties. Figure 3.3 outlines how Treasury's domestic interest rate swap program has assisted to reduce the modified duration target of the domestic portfolio so that, since February 1999, the modified duration has been below the upper bound of the benchmark target range.

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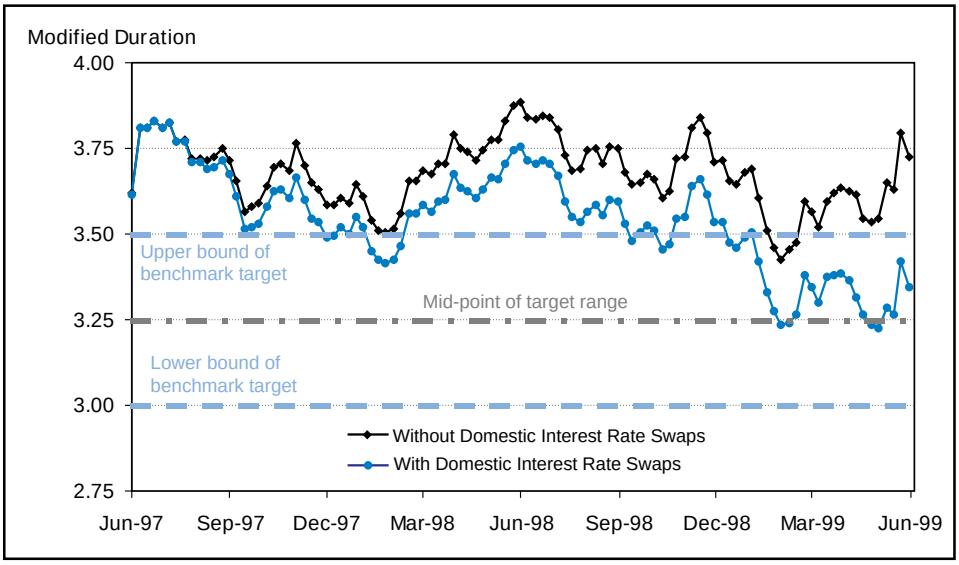
[37] Modified duration is a measure of the sensitivity of the market value of debt securities to a change in interest rates. It is an indication of the interest rate risk of a security or portfolio and is measured as a percentage change in the market value of an instrument in response to a one percentage point change in interest rates.

[38] The benchmark research found that the duration of the United States dollar component of the debt portfolio had little effect on debt costs or risk. Accordingly, the focus of debt management duration adjustments is on the domestic portfolio.

[39] Mean reversion theory suggests that, over the long-term, future market movements will reflect historical movements. This approach is predicated on the belief that historical studies of financial market trends and influences is a guide to the future. Mean reversion theory does not recognise that the future may see new economic situations and trading regimes emerge such that history is not a guide to the future.

[40] Cross-currency swaps have a second purpose in that they assist Treasury obtain its targeted exposure to United States dollars.

Figure 3.3
Modified Duration of the Domestic Debt Portfolio: June 1997 to June 1999



Source: Treasury analysis

3.24 **Finding:** Treasury has had a broad benchmark target for domestic interest rate exposure of the debt portfolio since 1992–93. The exposure to domestic interest rates is considered to be the key influence in determining debt portfolio risk. Treasury's major debt instrument (Fixed Coupon Bonds) involves fixed interest rates making it difficult to significantly alter the duration of the portfolio once debt has been issued. In comparison, the amount of floating rate debt on issue is much smaller. Instead, swap derivatives have been the primary means of adjusting portfolio duration but there are operational limits on the size of the swap program. Since February 1999, the modified duration has been consistently within the benchmark target range.

Foreign currency exposure

3.25 Treasury has not issued physical debt securities in offshore markets since 1987. Accordingly, as of 30 June 1999, there was $91.8 billion (market value) of Australian dollar denominated debt securities on issue compared to a relatively low level of $722 million of securities denominated in foreign currencies, primarily United States dollars.

3.26 A key conclusion of the portfolio management consultancy was that the Commonwealth could look to minimise the long-term expected cost of the debt portfolio (subject to acceptable risk) by adjusting the foreign currency composition of the debt portfolio, without taking

interest and exchange rate views. The research recognised that the expected long-term cost reductions could only be achieved by taking on risk associated with interest and exchange rate movements.[41]

3.27 Variable exchange rates mean that foreign exchange gains and losses are relatively unsystematic. Accordingly, the value of foreign currency denominated exposures can change markedly. Treasury considered that the Commonwealth should adopt a medium to longer-term focus in conducting portfolio management operations and managing exchange rate risk. Treasury advised ANAO that:

> *this focus is consistent with the longer-term presence of the Commonwealth in debt markets and a capacity (borne of necessity) to carry a position through business and financial market cycles. To adopt a shorter-term focus would require the Treasury to adopt views on the future path of the exchange rate, which is considered inappropriate given the Treasury's role in economic policy formulation. In particular, any resulting misperception of the debt manager having "inside" knowledge could lead to concerns regarding policy signalling and contagion. This contrasts with private sector players in the financial market, who have a strong commercial interest in short term profitability and a lesser capacity to hold a long term position in markets.*

3.28 As part of its portfolio management approach, Treasury has actively increased its exposure to foreign currency risk through the use of derivatives. Treasury's 1996 institutional arrangements and resourcing consultancy noted that Treasury's decision to seek a net foreign currency exposure, independent of foreign exchange needs or the need to offset foreign currency assets, is in contrast to the practices of other sovereign debt managers, State treasury corporations and most private sector practice.[42]

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[41] Treasury's research concluded that, while financial markets may be efficient in an ex ante sense, they are not efficient in an ex post sense and that this is reflected in forward prices that systematically fail to predict the actual future course of market rates. That is, financial markets are generally biased predictors of future spot rates. Assuming that the fundamental causes of these systematic biases are risk premiums (as suggested by academic literature), Treasury concluded that it could manage the long-term expected cost of its portfolio by changing the mix of debt instruments without having to take interest rate or exchange rate views or attempting to 'beat the market'.

[42] In this sense, Treasury does not use swaps to hedge existing exposures, but creates new exposures to try and reduce debt costs for an acceptable level of risk (ie arbitrage). In other words, Treasury is not hedging underlying transaction or economic exposures but is attempting to trade-off between cost and risk.

3.29 The May 1996 UBS portfolio benchmark consultancy report concluded that the long-term expected Australian dollar cost of United States dollar debt was lower than the long-term expected cost of Australian dollar debt.[43] The report recommended holding 10 to 15 per cent of the debt portfolio in United States dollars[44] as this could significantly reduce debt costs without significantly increasing risk. The three key underlying assumptions in this recommendation were: the timeframe adopted for analysis; interest rate differentials; and the exchange rate.[45]

Timeframe

3.30 The May 1996 portfolio benchmark recommendation was based on analysis of the savings that could have been achieved between 1978 and 1996 by having United States dollar debt liabilities in the Commonwealth's portfolio.[46] The report concluded that the savings opportunity between 1978 and 1996 arose because the lower real interest rate in the United States market combined with long-run real exchange rate stability translated into lower real funding costs. Treasury advised ANAO that:

> *the historical analysis provided a starting point for considering assumptions about the future. The assumptions adopted were broadly consistent with long term historical analysis, but were relatively conservative compared with the experiences of the 1990s. In addition, sensitivity analysis was conducted to assess the robustness of the recommended foreign currency exposure to important assumptions, such as the risk premium in interest*

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[43] Treasury has reviewed the assumptions underpinning this target in December 1996 (as a result of the narrowing interest rate differential between Australian and United States markets); November 1997 (because of the further narrowing in the interest rate differential); and August 1998 (following the sharp depreciation of the exchange rate).

[44] The consultant concluded that there was no advantage in being exposed to foreign currencies other than the United States dollar. In particular, exposure to Deutschemark and Yen (Australia's other major currency trading blocks) was found to be not efficient in reducing costs for the risks undertaken. This was because: Deutschemark and Yen have been more volatile currencies than United States dollars; there has been a high correlation between the three currency sectors from an Australian dollar perspective; and it was not clear that there was a potential long term economic saving on the basis of the outcome of the currency relative to the forward exchange rates being biased in favour of a stronger Australian dollar.

[45] ANAO was advised by Macquarie University's Centre for Studies in Money, Banking and Finance that the basic methodology used by Treasury's portfolio management consultant is in line with other published research in the area of asset and debt management.

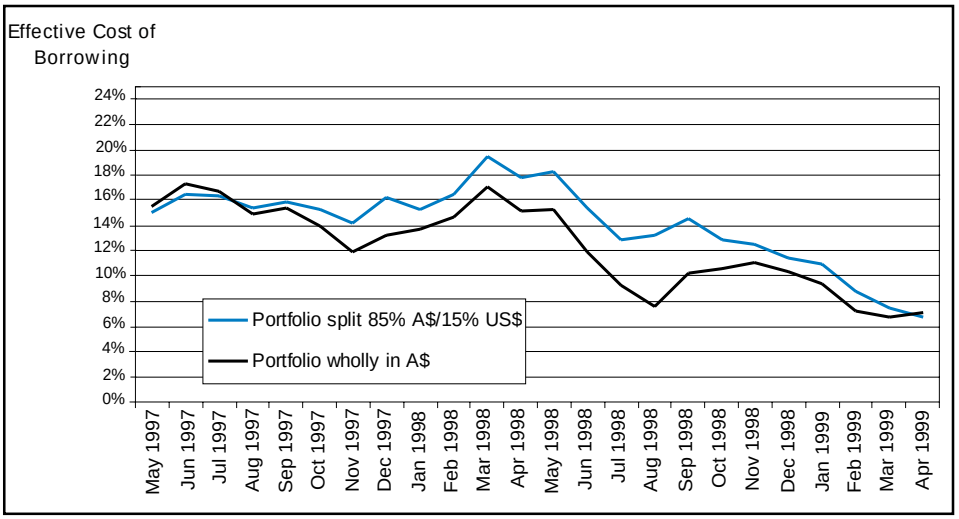
[46] Australia adopted a floating exchange rate in December 1983. Between November 1976 and December 1983 a 'crawling peg' exchange rate was in place, whereby the Australian dollar was valued daily against a basket of currencies weighted in proportion to each country's trading importance to Australia. Under this system, the Treasurer was responsible for setting the exchange rate which was expressed as a midrate in terms of the United States dollar. A committee that comprised the Governor of the Reserve Bank, the Secretary to the Treasury, the Secretary of the Department of the Prime Minister and Cabinet, and the Secretary of the Department of Finance was responsible for day-to-day management of the exchange rate.

rate differentials and the degree of exchange rate volatility. Deliberately conservative parameters were adopted where the analysis of foreign currency exposure was shown to be sensitive to a particular assumption (eg, exchange rate volatility).

3.31 ANAO analysis of the effective cost of borrowing in Australian dollars and United States dollars between January 1985 to April 1999 confirmed that debt funding in United States dollars would have been more cost-effective for much of this period. However, over individual periods, borrowing in United States dollars would have been substantially cheaper at some times and substantially more expensive at other times. For example, the area between the lines in Figure 3.4[47] shows that the introduction of a 15 per cent United States dollar component generally increased the cost of borrowing over the period between May 1997 and April 1999.

Figure 3.4

Effective cost of borrowing: May 1997 to April 1999



Source: Analysis undertaken for ANAO by Macquarie University's Centre for Studies in Money, Banking and Finance

3.32 A similar conclusion is evident from Treasury's September 1998 performance assessment[48] which concluded that, because of the strong United States dollar, it would have been advantageous for Treasury to have been underweight against the United States dollar benchmark target

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[47] Figure 3.4 examines what would have happened if Treasury had immediately implemented the recommendation to hold up to 15 per cent of the portfolio in United States dollars. Figure 3.4 compares the relative performance of two portfolios: one wholly denominated in Australian dollars; and a second portfolio including 15 per cent in United States dollars (using the Salomon Brothers Government Bond Index).

[48] See paragraph 3.54.

in 1997–98. Together with ANAO's analysis, this indicates that, while the long-term risk may be acceptable, the short term risk of borrowing in United States dollars can be significant. Treasury's most recent (August 1998) review of the foreign currency benchmark target acknowledged that, if the United States exposure results in excessive cost volatility, the expected long-term cost savings may involve unacceptable risk and therefore may not be worthwhile.

Interest and exchange rates

3.33 Interest rate differentials are generally the key determinant of short-term exchange rates whereas inflation differentials are the key to long-term exchange rate movements.[49] The major source of the potential savings identified by Treasury from borrowing in United States dollars was that the interest differential between Australian and United States interest rates was a biased predictor of future exchange rate movements. Treasury advised ANAO that this is a common finding in the academic literature. Treasury interpreted this differential as resulting from a risk premium on Australian dollar debt.[50]

3.34 The May 1996 portfolio benchmark report noted that interest differentials had averaged 50 basis points between 1978 and 1996, and between 400 to 500 basis points during the 1990s (up until 1996). The report assumed what Treasury considered to be a conservative value of 88 basis points for the risk premium going forward. The interest rate differential has subsequently narrowed to around 20 to 40 basis points as of May 1999.[51] The Reserve Bank has noted that domestic factors have been important in this fall, the main ones being: widespread investor confidence that the fall in inflation will be sustained; and the improvement in the budgetary position.[52]

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[49] Empirical evidence broadly supports the International Fisher Effect Theorem that currencies with high interest rates tend to depreciate while currencies with low interest rates tend to appreciate in value.

[50] That is, foreign investors demand a higher return on Australian dollar debt beyond what they factor in to reflect the expected movement in the exchange rate.

[51] Reserve Bank of Australia, *Semi-Annual Statement on Monetary Policy*, included in the Bank's May 1999 *Bulletin*, p. 6. The Reserve Bank also noted that, in 1998, Australian bond yields had fallen to 4.72 per cent, which is their lowest level since 1964. In comparison, in the second half of the 1980s the yield on 10-year bonds averaged 13.2 per cent and even as recently as late 1994 they had been as high as 10.7 per cent.

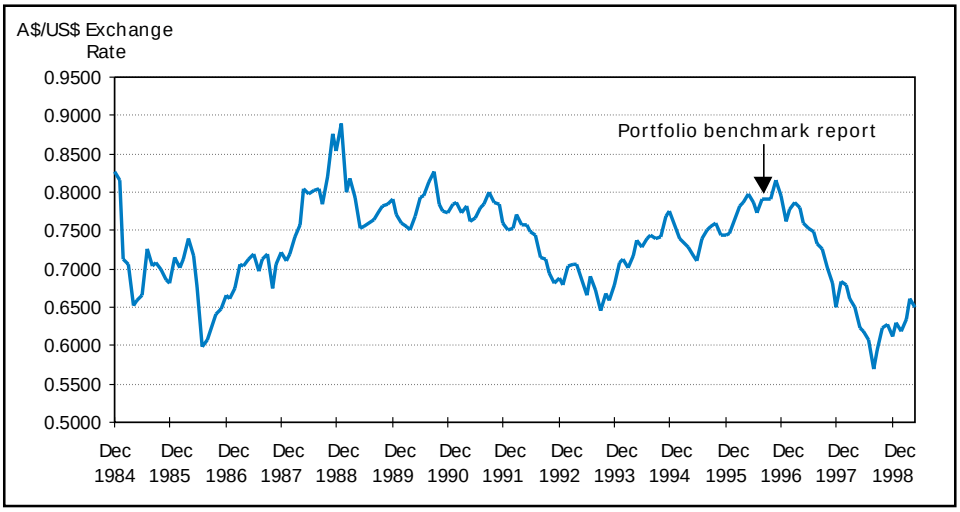
[52] *Ibid*, pp. 6–7. The Reserve Bank also noted (p. 1) that the maintenance of a combination of strong growth and exceptionally low inflation almost two years after the Asian crisis first broke is indicative of the extent of improvements in the Australian economy's underlying strength and resilience. The Bank observed that these changes have included better arrangements for macroeconomic management and extensive structural improvements.

3.35 If interest rate differentials between Australia and the United States remain small, the key determinant in the effective cost of a debt portfolio with around 12.5 per cent United States dollars exposure will be the exchange rate. Treasury has a policy of not taking views on exchange rates because of the risk that debt management activities could send confusing signals to the market about the direction of economic policy. Treasury's portfolio management research concluded that, by taking on additional risk, it could seek to minimise the expected long-term cost of the debt portfolio without taking interest and exchange rate views.

3.36 The onset of the East Asian financial crisis in 1997 contributed to a significant depreciation of the Australian dollar, particularly against the currencies of the major economies, including the United States dollar (see Figure 3.5). As a result, in August 1998 the Australian dollar reached a post-float low of US55.30 cents; a depreciation of 18 per cent from December 1997.[53] The Reserve Bank has noted that the increased volatility in the Australian dollar exchange rate has been a result of increased speculative activity and Australia being viewed as a proxy, at different times, for Asian markets and markets of other commodity exporting countries.[54]

Figure 3.5

Australian Dollar Exchange Rate: December 1984 to May 1999



Source: Macquarie University's Centre for Studies in Money, Banking and Finance

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[53] Treasury's portfolio benchmark recommendation for United States dollar exposure was based on an assumption of 12.5 per cent annual volatility in the exchange rate set against a trading range of 65 United States cents to 85 United States cents within which the dollar had traded for many years up until the May 1996 benchmark report.

[54] Reserve Bank of Australia, *Bulletin*, March 1999, p.9.

Review of the foreign currency benchmark exposure

3.37 Treasury recognises that the degree of United States dollar exposure in the benchmark is sensitive to assumptions regarding the future volatility of the exchange rate.[55] In December 1996, November 1997 and August 1998, Treasury reviewed the key assumptions underpinning the benchmark recommendation on foreign currency exposure to assess whether they continue to remain valid.

3.38 The May 1996 portfolio benchmark assumed that future exchange rate volatility would be twice that measured between 1978 and 1996,[56] which reduced the target United States dollar exposure than would otherwise have been the case. Treasury's most recent (August 1998) review noted that exchange rate volatility had increased to 11.7 per cent per annum compared to the 1978 to 1996 historical average of 7.5 per cent per annum. However, this remained within the assumption of 12.5 per cent exchange rate volatility underlying the benchmark recommendation.

3.39 The most recent review noted that the volatility of the exchange rate and the risk premium on the Australian dollar (exchange rate bias) were the key structural assumptions. Treasury concluded that there was no evidence of a structural break in the risk premium on the Australian dollar and, although the exchange rate had depreciated significantly and become more volatile, the volatility remained within the range assumed in the construction of the benchmark. Accordingly, Treasury considered there was, as of August 1998, no reason to question the recommendation to target foreign currency exposure of between 10 per cent and 15 per cent of the portfolio.

3.40 Treasury advised ANAO that the risk premium on Australian dollar debt is not directly observable; all that can be observed is an interest differential which could reflect a combination of expectations in the change in the exchange rate and risk premium. In the August 1998 review of foreign currency exposure, Treasury combined interest rate differential data at that time with the assumed risk premium to generate implied exchange rate paths. These were compared with market forecasts at the time and historical movements in the exchange rate and found to

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[55] The May 1996 portfolio benchmark report concluded that: *the opportunity to fund in United States dollars presents an opportunity to save between 50 and 150 basis points per annum over the long-term. This opportunity arises because the lower real interest rate in the United States market combined with long-run real exchange rate stability translates into a lower real funding cost over the long-term.*

[56] The report adopted a base case of 12.5 per cent volatility per annum compared to historical volatility of between 5.5 and 7.6 per cent between 1978 and 1996.

be consistent if not relatively conservative. Treasury advised that the indirect evidence could not reject a risk premium broadly consistent with that assumed in the benchmark analysis.

3.41 **Finding:** Treasury's target of holding 10 to 15 per cent of the debt portfolio with a United States dollar exposure is based on analysis of the cost and risk of that exposure. This analysis is not based on short-term views about the future path of interest or exchange rates. Inputs to this analysis include assumptions about structural factors such as Australian dollar risk premiums and volatility based on historical data, robustness testing and judgement. The research recognised that the expected long-term cost reductions could only be achieved by taking on risk associated with interest and exchange rate movements.

3.42 As of 30 June 1999, the $92 billion (market value) of Australian dollar denominated debt securities far outweighed the $722 million of foreign currency debt securities. Treasury has not issued debt securities in offshore markets since 1987. Instead, Treasury has used cross-currency swaps to achieve the target range for United States dollar exposure. In this sense, Treasury has used cross-currency swaps, not to hedge existing exposures, but to create new exposures to United States dollars as a strategy to reduce debt costs for an acceptable level of risk. A 1996 consultancy found that Treasury's decision to seek a net foreign currency exposure, independent of foreign exchange needs or the need to offset foreign currency assets, is in contrast to the practices of other sovereign debt managers, State treasury corporations and most private sector practice.

3.43 The management of the Commonwealth debt portfolio in accordance with specific benchmarks can only be effective if the benchmarks are appropriate. In the light of market developments, Treasury has reviewed the assumptions underlying the benchmark recommendation for United States dollar exposure on three occasions in recent years with the most recent (August 1998) review concluding that the recommendation remained valid. Audit analysis indicates that, although the long-term risk may be acceptable, borrowing in United States dollars has increased the short-term risk of increased debt costs. Furthermore, although there is Ministerial endorsement of the annual swaps strategy used to move the portfolio towards the portfolio benchmark targets, ANAO considers there is merit in obtaining formal Ministerial endorsement of the actual targets.

3.44 **Recommendation No.1:** ANAO *recommends* that, consistent with its increasing focus on risk management and having regard to the changed economic circumstances since its original analysis and the planned reduction in Commonwealth net debt, the Australian Office of Financial Management:

(a) as part of its ongoing portfolio management activities, continue to evaluate the data and assumptions underlying the target of seeking United States dollar exposures in the debt portfolio;

(b) re-examine the benchmark portfolio targets as part of its next portfolio management consultancy; and

(c) obtain formal Ministerial endorsement of the portfolio benchmark targets.

AOFM response

3.45 Agreed.

Treasury response

3.46 Agreed.

Performance measurement

3.47 The OECD Working Party on Government Debt Management has noted that there is no single performance assessment framework that will suit all sovereigns in all stages of the development of their debt management function. The 1997 OECD Questionnaire on sovereign debt management performance assessment found that there has been a clear, if gradual, shift towards a risk management focus for the conduct of sovereign debt management, such that debt management performance is assessed primarily by reference to the effective management of risks. Treasury's experience with portfolio benchmarks means that it is well placed in this respect.

3.48 A significant benefit of defining a portfolio benchmark is that it provides a tool for embodying debt management objectives and assessing how well this objective is being achieved. To achieve this goal, the benchmark needs to be realistic in terms of being able to be implemented and it must enable the performance of debt managers to be measured and assessed. Other important elements of successful performance measurement are: linking performance measurement to, and biasing performance towards, the manager's goals; performance benchmarks should be identified in advance; and the benchmark should be related to risk.

3.49 The actual debt portfolio may deviate from the target benchmark in terms of its currency mix and in terms of its modified duration. Treasury regularly monitors its performance in maintaining the actual debt portfolio in accordance with the benchmark portfolio targets. This performance is reported in the annual *Commonwealth Debt Management* report published by Treasury, as well as a wide range of operational and transactional performance indicators.

3.50 ANAO has been advised that it is accepted commercial practice for debt managers that adopt a target portfolio benchmark to be given some latitude around the benchmark targets, although Treasury has noted that this may not be the practice of sovereigns that have adopted a benchmark portfolio approach to debt management. Providing latitude around the benchmark targets enables the debt manager to adjust the portfolio characteristics according to the view the manager has taken on the direction of interest and exchange rates. The manager's performance is then compared to the performance of the theoretical benchmark portfolio on a 'mark to market' basis.[57]

3.51 Treasury advised ANAO that, in relation to portfolio management, its major performance indicator is maintaining the market risk parameters of the Commonwealth debt portfolio within the benchmark ranges.[58] Treasury also advised ANAO that, consistent with the experience of OECD sovereign peers, development of a suite of objective risk management performance indicators has proved both resource-intensive and challenging, particularly in relation to portfolio (market) risk management.

3.52 Departures from the benchmark portfolio target have implications for management of the cost and risk of the debt portfolio. Accordingly, Treasury's December 1995 portfolio management consultancy contract required the development of a performance measurement model which would evaluate the performance of Treasury's portfolio against the long run target benchmark portfolio in terms of cost savings and exposure risk. Treasury intended that a performance measurement capacity would

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[57] 'Mark to market' is a market value accounting measure where the market values are obtained directly from liquid markets.

[58] Treasury further advised ANAO that there are a number of important public policy sensitivities and constraints that have led it to conclude that the most appropriate role for the benchmark is as a target for its portfolio management operations rather than as a yardstick to measure and seek out-performance. In this respect, Treasury advised that attempting to outperform the benchmark:

- would require the Treasury to form short-term views on the direction of interest rates and exchange rates and out-guess the financial market, resulting in both policy signalling and contagion issues; and
- could result in a perception that the Treasury was opportunistically exploiting the Commonwealth's dominant position in the Australian debt markets due to its size and role as the premier credit. The perception of this behaviour could damage the Australian markets and ultimately lead in the long term to higher risk premiums and borrowing costs to Government.

enable the market value of the debt portfolio to be monitored daily and reports to be produced on the performance of the portfolio against the benchmark. More detailed performance of the portfolio over an extended period of time, including the major factors behind the performance report, would be conducted every six months.

3.53 The performance measurement aspect of the consultancy was not completed under the December 1995 contract but was given renewed emphasis in the December 1996 contract. The second contract required the development of a performance measurement model which would evaluate the performance of the debt portfolio against the long run benchmark portfolio and other shadow portfolios both in terms of cost savings and exposure to risk. The contract also required written reports containing an overview of the cost and risk characteristics of the Commonwealth debt and where the current and benchmark portfolios stand in this respect, and the market valuation and performance of the current portfolio against the benchmark.

3.54 In September 1998 the consultant provided Treasury with a performance assessment of portfolio management operations in 1997–98 relative to the benchmark. Based on certain assumptions concerning operational constraints, the report concluded that the departure of the debt portfolio from the mid-point of the benchmark ranges between 2 July 1997 and 1 July 1998 resulted in additional debt costs of $362 million relative to the benchmark comprising:

- additional costs from the duration of the domestic portfolio being on average 0.35 years above the mid-point benchmark range duration of 3.25 years. As interest rates were falling, the long duration of the debt portfolio proved to be particularly costly, adding $423.2 million to debt costs;
- the duration of the United States dollar portion of the portfolio was continuously below the mid-point of the benchmark range which, because of falling interest rates, resulted in modest cost savings of $14.7 million; and
- reduced debt costs as a result of reduced exposure to United States dollars[59] during the first half of the year compared to the mid-point of the benchmark range of 12.5 per cent. During the second half of the year, exposure was in excess of the mid-point of the benchmark range, which reduced the overall cost savings to $46.8 million. With a strong United States dollar, it would have been advantageous for Treasury to have been underweight for the entire year.[60]

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[59] Exposure to United States dollars is primarily intended to have efficiency (that is, risk reducing) advantages to the Commonwealth.

[60] See also paras. 3.25 to 3.40.

3.55 This performance measurement has not been updated to reflect Treasury's more recent performance in managing to the benchmark. Also, Treasury does not regularly measure or report the cost and risk implications of departures from its stated ranges around the benchmark targets.

Figure 3.6

AOFM Comments on Section 19 Proposed ANAO Performance Audit Report

> The draft [ANAO] report refers to a report written by the Commonwealth's portfolio management consultant that estimated that, in 1997–98, the departure of the portfolio from the mid-point of the benchmark range had resulted in additional debt costs of $362 million relative to the benchmark. This result should be qualified by noting that the benchmark targeted by the AOFM comprises a range of interest rate duration and currency exposure targets, not the mid-point of ranges.
> The breadth of the benchmark range reflects the results of the benchmark analysis. The AOFM targets this range, without a strong preference as to any particular point within the range. The performance report referred to by the ANAO represented an initial exploration into this type of performance analysis, but did not capture a complete or true quantitative representation of the Commonwealth's portfolio management performance or, significantly, relevant public policy constraints.

Source: AOFM, 23 September 1999.

3.56 Treasury advised ANAO that *there are a number of public policy and risk management considerations that influence the conduct of our portfolio management operations and the degree to which we can maintain the portfolio within the benchmark risk parameters. All of these factors have constrained, at different times, the swap program in that pursuit:*

- *due to the dominant position of the Commonwealth in Australian debt markets, it is incumbent on the Treasury in managing the market risk of the Commonwealth debt portfolio to ensure that it does not destabilise these markets or related derivatives markets through its portfolio management transactions (currently swaps). There have been periods when the Treasury has allowed the market risk of the Commonwealth debt portfolio to stay outside benchmark parameters rather than risk destablising the swap market through undertaking transactions judged to be beyond the capacity of the market;*
- *there have been periods when the Treasury has been constrained in its ability to undertake further swaps because of credit risk considerations. In particular, in the past when the Australian dollar has appreciated strongly, the Commonwealth swap portfolio has gone significantly "in-the-money",*[61] *increasing the Commonwealth's market exposure to its counterparties which*

[61] 'In-the-money' means the Commonwealth has, at current prices, made an unrealised profit by entering into the swap transaction. The Commonwealth is exposed to credit risk on 'in-the-money' swaps because, in the event of counterparty default, the Commonwealth would suffer a financial detriment through the opportunity cost of being unable to exercise the swap and realise this gain from the transaction. 'Out-of-the-money' means that, at current prices, the Commonwealth has made an unrealised loss by entering into the swap. There is no credit risk on swaps that are out of the money, although there is the potential for this to occur as 'out-of-the-money' swaps can move 'into-the-money' as a result of price movements.

has increased credit risk. In this situation, the Treasury has allowed the market risk of the Commonwealth debt portfolio to fall outside benchmark risk parameters because of credit risk limits. This constraint has been alleviated in more recent times with the adoption by Treasury of credit management techniques of swap mark to market adjustments such as swap principal adjustments and recouponing; and

- *the operational risk associated with managing all the settlements associated with these transactions. There have been limited staff and information technology resources in the Treasury based debt management operation in past years. This has meant that the swap program has been constrained by the ability to ensure those swap transactions can be undertaken without significantly increasing operational risks.*

Figure 3.7

AOFM Comments on Section 19 Proposed ANAO Performance Audit Report

The AOFM offered the following comments in relation to sovereign debt management performance assessment.

Progress to Date

The AOFM has been proactive within the OECD Working Party on Government Debt Management in raising performance measurement and reporting as a key issue on that body's work program. In 1997, Treasury initiated a survey of performance reporting measures and frameworks within Working Party member countries, to facilitate benchmarking against sovereign best practice in this area.

In terms of indicators of transaction performance and debt management activities, the performance indicators published by AOFM in the Commonwealth Debt Management Report are on a par with best sovereign practice. In relation to portfolio management performance assessment, few sovereigns have reached a stage of having defined formal benchmarks and only one or two sovereigns would have more advanced performance measurement and reporting capabilities. The AOFM reports its performance in managing the portfolio within benchmark ranges in its Commonwealth Debt Management Report.

Departures from Portfolio Benchmark Targets

In principle, the extent to which the debt manager has been successful in tracking the debt portfolio in line with benchmark target ranges can serve as a reasonably objective measure of portfolio management performance. In practice however, some caution is required in interpreting this indicator in an overly mechanistic fashion, given the singular role that the sovereign debt manager plays in financial markets. In clear contrast to corporate treasuries, or even other public sector debt managers, there are a range of binding public policy considerations that will, on occasion, limit the capacity of a sovereign debt manager to vigorously pursue benchmark targets.

The sovereign (government), in its policy setting role, has the capacity to directly influence key financial market prices both short and longer term, requiring the debt manager to be particularly sensitive to the risks of market perceptions regarding policy signalling and/or insider trading. The sheer weight of the sovereign as the largest issuer and portfolio manager in the domestic market (and the capacity to destabilise markets that this implies) provides another form of constraint. Market movements may require regular, large portfolio re-balancing transactions if the

benchmark was always to be tracked accurately. In practice, transactions in the volume required may simply be beyond the capacity of the market to absorb.

It is essential that any performance assessment framework adequately reflect the practical implication of these sorts of constraints. The AOFM has undertaken some exploratory work into assessing the cost and risk of departures from benchmark. However, considerable further work is required to establish a capacity to take account of the broader policy constraints incumbent on a sovereign debt manager operating within a portfolio benchmarking framework.

Source: AOFM, 23 September 1999.

3.57 **Finding:** Treasury's portfolio benchmark enables an objective assessment to be made of its performance against its debt management objective of minimising long-term cost with an acceptable degree of risk exposure. The only performance assessment completed to date by Treasury's portfolio management consultant concluded that the departure of the debt portfolio from the mid-point of the benchmark ranges between 2 July 1997 and 1 July 1998 resulted in additional debt costs of $362 million relative to the benchmark. Treasury and the AOFM have noted that there are public policy and risk management considerations that influence the conduct of its portfolio management operations and the degree to which these operations can maintain the portfolio within the benchmark risk parameters. Nevertheless, ANAO considers continuous reporting and proper disclosure of performance against targets is an important corporate governance principle for effective debt management.

3.58 **Recommendation No.2:** ANAO *recommends* that the Australian Office of Financial Management enhance accountability for its debt management performance by regularly assessing the cost and risk implications of departures from the portfolio benchmark targets and reporting key performance indicators in its Annual Report.

AOFM response

3.59 Agreed. AOFM commented that, benchmarked against sovereign peer performance in this area, the AOFM considers that it is already at, or close to, best practice in its approach to debt management performance reporting. The AOFM intends to continue to develop its capability in this regard and to further enhance the reporting of its debt management performance. The AOFM considers that performance assessment based on assessing the cost and risk of departures from the benchmark target needs to be implemented carefully, capturing the public policy constraints and sensitivities unique to sovereign debt managers (as discussed in Figure 3.7).

Treasury response

3.60 Agreed. Treasury endorsed the AOFM response and comments.

4. Debt Reduction

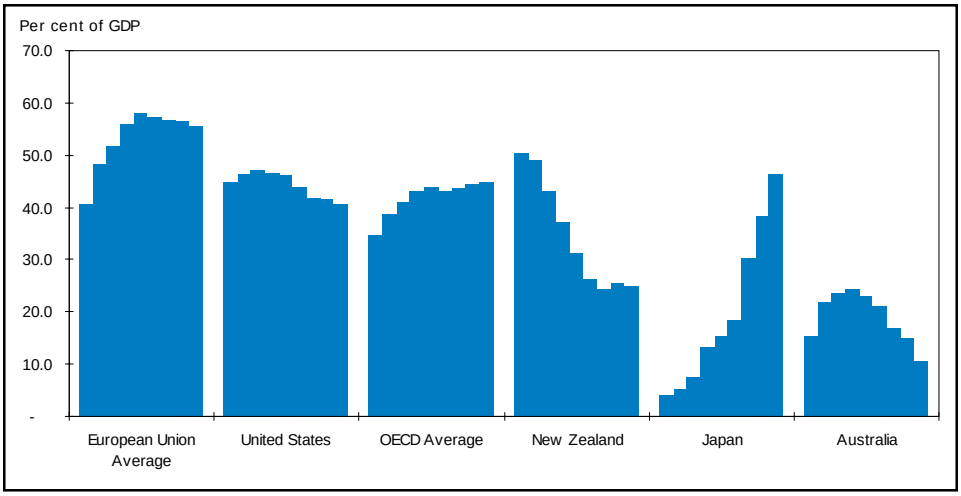
This chapter discusses the major actions taken to reduce net debt as a result of ongoing budget surpluses and the proceeds of asset sales.

Introduction

4.1 By comparison with other industrialised countries, Australia's level of general government[62] net debt is low (see Figure 4.1). Australia's general government gross public debt is also comparatively low[63] as are debt interest payments.[64] As a percentage of Gross Domestic Product, among member countries of the OECD only Korea and Norway had lower gross debt than Australia in 1997, which is the latest year such information is presently available.[65]

Figure 4.1

Comparison of General Government Net Debt Levels as a per cent of GDP: 1992 to 2000



Source: *Budget Strategy and Outlook 1999–2000*, Budget Paper No.1, Chart 5, p.1–18.

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62 General government is defined by the Organisation for Economic Co-operation and Development (OECD) to include: public authorities and administration at all levels of government; public services provided on a non-market basis by all levels of government; non-profit institutions providing services on a non-market basis that are controlled and mainly financed by the public sector; and social security funds imposed, controlled or financed by public authorities. Public enterprises that provide goods and services on a market basis are excluded.

63 Source: OECD, *Economic Outlook No.64*, December 1998.

64 As a percentage of general government outlays, Australia's debt interest is below the average for OECD countries. Source: OECD, *National Accounts*, 1996.

65 Source: OECD, *Economic Outlook No.64*, December 1998.

4.2 The Commonwealth has been a significant issuer of debt, with Commonwealth Government Securities on issue peaking at $107 billion as of 30 June 1997. The cost of servicing Commonwealth debt (Public Debt Interest) is also financially material with Public Debt Interest outlays of $7.8 billion in 1997–98, which represented 6.5 per cent of total Commonwealth outlays and 1.4 per cent of Gross Domestic Product.[66]

4.3 Net debt reduction, through ongoing budget surpluses and repaying debt with the proceeds of asset sales, is one of the Government's key priorities. This is expected to result in ongoing savings in public debt interest and reduced exposure to changes in financial markets (market risk).[67] The OECD has noted that lower levels of net indebtedness can also help reverse unfavourable debt servicing cycles, lower the country risk premium, increase the country's creditworthiness and provide a buffer against emerging pressures such as an aging population.[68]

4.4 The Government's medium-term fiscal target is to halve the ratio of Commonwealth general government net debt to Gross Domestic Product from almost 20 per cent in 1995–96 to 10 per cent by 2000–01.[69] The 1999–2000 Budget estimates that this will be achieved (see Figure 4.2), although this is dependent on the fulfilment of a number of assumptions including the full privatisation of Telstra.[70]

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66 The Treasury, *Commonwealth Debt Management 1997–98*, p.32.

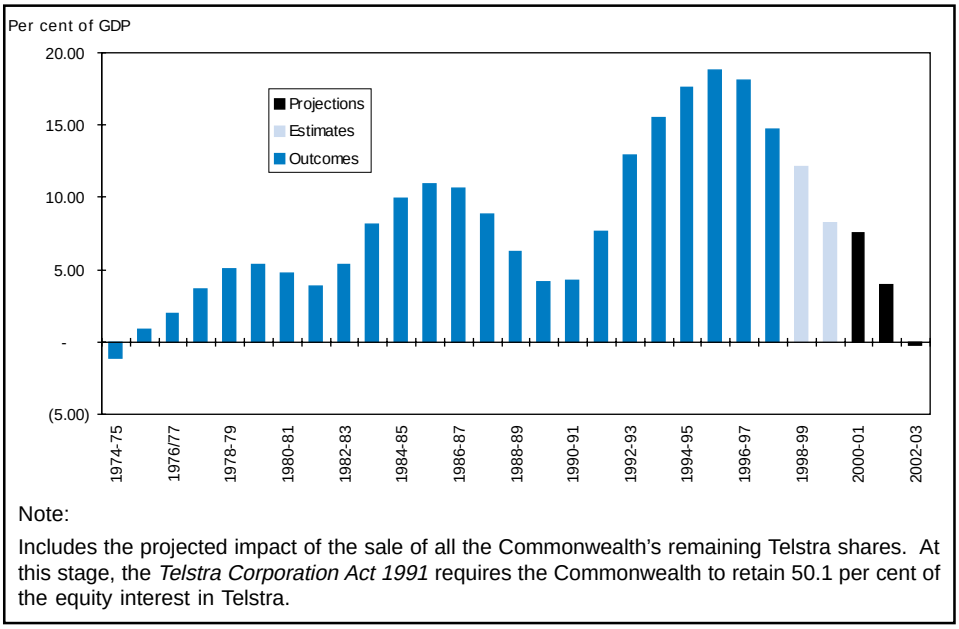
67 *Budget Strategy and Outlook 1998-99*, Budget Paper No.1, 12 May 1998, pp. 7-13.

68 Organisation for Economic Co-operation and Development, Working Party on Debt Management, *Implications for Debt Management of Government Surpluses*, October 1998, p. 3.

69 *Budget Strategy and Outlook 1999-2000*, Budget Paper No.1, 11 May 1999, pp. 1-15.

70 The *Telstra (Further Dilution of Public Ownership) Act 1999* was passed by the Parliament in June 1999, allowing the sale of up to 49.9 per cent of the Commonwealth's original equity interest in Telstra. The Commonwealth is required to retain the remaining 50.1 per cent. Accordingly, further legislative change will be required if the full privatisation is to proceed.

Figure 4.2
Commonwealth General Government Net Debt: 1975–76 to 2002–03



Note:

Includes the projected impact of the sale of all the Commonwealth's remaining Telstra shares. At this stage, the *Telstra Corporation Act 1991* requires the Commonwealth to retain 50.1 per cent of the equity interest in Telstra.

Source: *Budget Strategy and Outlook 1999–2000*, Budget Paper No.1, Chart 4, p. 1–17.

4.5 The capacity to reduce net debt and the associated interest expense arises primarily from achieving cash surpluses. Ongoing cash surpluses (which include asset sale proceeds) mean that the Commonwealth is raising more cash than it spends, offering the potential to reduce debt issuance and/or retire existing debt.

4.6 Commonwealth borrowings are primarily comprised of the outstanding stock of Commonwealth Government Securities and, as demonstrated by Figure 4.3, reductions in Commonwealth borrowings are expected to make the greatest contribution to the Government's objective of reducing general government net debt. Treasury intended to manage the reduction in Commonwealth Government Securities on issue in line with the objective of maintaining the liquidity and efficiency of the Commonwealth yield curve.[71] Accordingly, Treasury planned not to repurchase the total amount of Commonwealth Government Securities implied by the reduced level of borrowings but intended to adopt a range of financial management techniques to maintain the desired volume of securities on issue while at the same time reducing net debt. These techniques may include acquisition of financial assets (possibly including debt issued by other sovereigns) in conjunction with selective repurchases

[71] The yield curve illustrates the relationship between the time to maturity and the interest rate (yield) value of a security.

of Commonwealth Government Securities. Treasury envisages that the AOFM will take a similar approach.

Figure 4.3

Commonwealth General Government Net Debt: 1999–00 and 2000–01[72]

	1999–00 Budget ($m)	*2000–01 Estimate ($m)*
Selected Financial Liabilities		
Deposits held	632	705
Advances received	0	0
Borrowings	75 019	73 255
Sub-total liabilities	**75 651**	**73 960**
Selected Financial Assets		
Cash and deposits	2 006	1 755
Advances paid	15 303	15 961
Investments	8 327	8 457
Sub-total assets	**25 636**	**26 173**
Net Debt	**50 015**	**47 787**

Source: Appendix D, Budget Paper No.1, Budget Statement No.9, 11 May 1999.

Funding sources

4.7 In a fiscal environment where the budget is in deficit, a borrowing program can be formulated with the objective of raising the required funds as cost effectively as possible. Budget surpluses have been achieved since 1996–97 and surpluses are projected to continue over the forward estimates period. Borrowing program complexities have been increased by the uncertainty associated with projected budget cash surpluses, partly a result of uncertainty concerning the timing and extent of further sales of Telstra shares.

4.8 As a result of the recent budget surpluses, the Commonwealth has not needed to borrow funds from the capital markets since 1996–97. Accordingly, there has been a significant reduction in the amount of new debt being issued. Figure 4.4 summarises the borrowing program for the 1996–97 and 1997–98 financial years.

[72] The Budget Paper figures include the projected impact of the sale of all the Commonwealth's remaining Telstra shares. At this stage, the *Telstra Corporation Act 1991* requires the Commonwealth to retain 50.1 per cent of the equity interest in Telstra.

Figure 4.4

Commonwealth's Borrowing Program: 1996–97 and 1997–98[73]

	1996–97 ($bn)	*1997–98 ($bn)*
Headline Budget Deficit (Surplus)	-2.6	-16.5
Public Trading Enterprises Superannuation Financing	1.0	1.3
Other Financing [A]	-0.6	0.0
Changes in Cash Balances held at Reserve Bank	3.0	-3.4
Face Value Adjustment	-0.2	0.5
Net Borrowing Requirement	**0.6**	**-18.1**
Plus Debt Redemption:		
Maturing Debt (excl. Treasury Notes)	5.4	11.2
Early Repurchases	0.7	8.0
NSW Early Debt Repurchases	0.0	1.1
Gross Borrowing Requirement	**6.7**	**2.2**
Financed through:		
Treasury Fixed Coupon Bond Issuance	7.0	4.5
Treasury Indexed Bond Issuance	0.8	0.7
Treasury Adjustable Rate Bond Issuance	0.9	Nil
Treasury Notes (Net Issuance)	-2.0	-3.0
Total Debt Issue Program	**6.7**	**2.2**

Note:

[A] Includes net subscriptions to the International Monetary Fund, and proceeds and payments relating to swap transactions classified as financing transactions.

Source: ANAO analysis of *Commonwealth Debt Management 1997–98*.

4.9 Although cash surpluses have eliminated the need to fund the budget through the issue of new debt, Treasury continues to issue new debt for a number of reasons, namely:

- Treasury has placed a high priority on maintaining a liquid[74] and efficient domestic market for Commonwealth securities. For this reason, Treasury has: retained a modest issuance program above the budget funding requirement; not issued debt overseas since 1987; enhanced liquidity by issuing securities with a spread of maturities across the yield curve; and managed refinancing risks by ensuring that maturities are not unduly concentrated at certain parts of the yield curve;
- maturing debt needs to be funded and, depending on the Commonwealth's cash position, this may require the issue of new debt; and

[73] Figures for 1998-99 were not available from Treasury at the time this Report was finalised.

[74] A liquid market is one in which trading is immediate, where the immediacy of the trade has little impact on price, and where transaction costs and price fluctuation risks for large trades are small. As a result, the issuer is not penalised in pricing for market illiquidity.

- the nature of the Commonwealth's cash flows is that there will be short-term deficits through the year that need to be financed.

4.10 Treasury's strategy is to concentrate new issuance in key benchmark Treasury Bond lines, especially stock underpinning Bond futures contracts. Issuing into liquid benchmark lines reduces issuance costs because investors are prepared to pay a premium for improved liquidity and there is increased flexibility to issue stock that is in demand. In addition, benchmark lines assist the smooth functioning of the futures market and provide a benchmark for the pricing of other domestic financial instruments.

4.11 **Finding:** As a result of budget surpluses, the Commonwealth has not needed to borrow funds from the capital markets since 1996–97 and there has been a significant reduction in the amount of debt being issued. Nevertheless, Treasury has retained a modest issuance program above the budget funding requirement in order to maintain a liquid and efficient domestic market for Commonwealth securities, refinance maturing debt and meet short-term cash deficits which occur during the year.

Asset management

4.12 In the 1998–99 budget, the Treasurer announced that a range of financial management techniques (such as the purchase of financial assets to hold as Commonwealth investments) may be used to maintain the desired volume of Commonwealth Government Securities on issue, while at the same time reducing Commonwealth general government net debt. To enable the purchase of financial assets, the *Financial Management Legislation Amendment Act 1999* permits the Treasurer to invest public money in any authorised investment for Commonwealth debt management purposes.[75]

4.13 Acquiring financial assets to offset debt liabilities allows gross debt to be maintained at sufficiently high levels to ensure market liquidity and would assist with managing funding risk in the event of future cash

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[75] Authorised investments by the Treasurer are defined as any of the following investments:

- securities of the Commonwealth or of a State or Territory;
- securities guaranteed by the Commonwealth, a State or Territory;
- a deposit with a bank, including a deposit evidenced by a certificate of deposit;
- debt instruments issued or guaranteed by: the government of a foreign country; or a financial institution whose members consist of foreign countries, or of Australia and foreign countries being debt instruments with a credit rating that is consistent with the sound management of public debt; and
- any other form of investment prescribed by regulation.

deficits. A further significant advantage of purchasing high quality debt securities from other issuers is that it avoids placing the Commonwealth in the position of attempting to repurchase debt in a market that is aware of the Commonwealth's strategy. Otherwise, market participants would be in a strong position to increase the costs to the Commonwealth of repurchasing debt.

4.14 As the primary purpose of acquiring an asset portfolio is to allow the management of net debt, an integrated approach to net debt management appears to be most appropriate. Financial institutions often use an Asset and Liability Committee to advise the Board of Directors on their balance sheet management. The AOFM is expected to significantly enhance the Commonwealth's capacity to manage a net debt portfolio, including managing the acquisition of financial assets. Treasury envisages that the governance arrangements for this Office will include a Board of suitably qualified and experienced individuals, which will provide more focused and specialist oversight of the Commonwealth's debt management activities.

4.15 Treasury advised ANAO that the AOFM could be responsible for managing both financial assets and liabilities. Accordingly, the AOFM would need to recruit or train professional asset managers and develop a comprehensive accounting and control infrastructure that would allow direct comparison to commercial managers and/or indices.[76]

4.16 Treasury further advised ANAO that, given the potential scale of the exercise and the limited supply of Australian denominated debt securities, it is likely that the bulk of any financial asset acquisition would be in the form of foreign denominated debt securities. Treasury acknowledged that this would require the establishment of systems to support the acquisition and management of such securities and the associated derivative transactions to hedge currency and interest rate risk. Treasury also acknowledged that the Commonwealth would be exposed to greater credit risk than at present,[77] and this would need to be appropriately managed.

4.17 A key decision in managing the credit risk from acquiring debt securities as an investment would involve setting appropriate goals for

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[76] This would involve ensuring that: the funds under management were strictly segregated and identifiable; the funds were valued at appropriate market levels on a regular basis; and all management and administration expenses were accounted for and charged back to the fund. The objective would be to ensure that it will always be possible to identify the investment performance of the fund net of expenses.

[77] Treasury is presently exposed to credit risk in respect of its derivative transactions.

the asset portfolio. Treasury could choose to 'neutralise' the debt portfolio by purchasing assets that match the debt liabilities. An alternative goal for a fixed interest asset portfolio would be to benchmark against industry-based benchmarks.[78]

4.18 Adopting an integrated approach to net debt management would also have significant implications for Treasury's liability benchmarking approach. At present, Treasury adopts a diversified borrowing profile which seeks to reduce risk and minimise cost by diversifying the debt portfolio. However, as AOFM's role could be to manage net debt, it may be more appropriate to adopt an immunisation approach, which aims to match the maturity of the debt instruments to the assets being funded. This can reduce interest rate risk as changes in rates are neutralised (although it does not mean that the revenue from assets will match payments on debt liabilities). However, implementing the immunisation process is itself complex because it can be difficult to identify the economic cash flows from assets; Commonwealth revenue and expenditure assumptions are subject to policy changes and significant variability against the budget; and it can be difficult to achieve symmetry between assets and debt liabilities.

4.19 Treasury indicated to ANAO that the AOFM may combine financial asset acquisition (primarily the acquisition of debt securities of other high credit quality issuers) with the use of derivatives to generate cash flows that broadly offset cash flows on Commonwealth Government Securities on issue. That is, the AOFM would seek to 'immunise' debt that would otherwise have been repurchased or not issued, and manage the net debt portfolio to the established portfolio liability benchmark.

4.20 **Finding:** The management by the Australian Office of Financial Management of a portfolio that comprises both assets and liabilities would be more complex than managing a gross debt portfolio. In particular, risk exposures may increase markedly. The establishment of a specialist Australian Office of Financial Management is intended to significantly enhance the Commonwealth's capacity in this regard.

[78] Examples include the Salomon Brothers World Government Bond Index and the JP Morgan Global Government Bond Index. Each measures the change in value of the basket of bonds over time, continually adjusting the portfolio for new issues and maturities. The index portfolios represent approximately 98 per cent of total government bonds issued.

Debt consolidation

4.21 Since 1997–98, Treasury has undertaken a significant repurchase program to underpin portfolio management and cash management operations. The approach adopted has involved Treasury directing the Reserve Bank on undertaking on-market purchases of stock which are periodically purchased from the Bank by Treasury. The debt consolidation program has comprised three discrete elements:

- early repurchase of illiquid stocks, designed to assist Treasury build liquidity in key benchmark lines. A total of $789 million (face value) of such stock has been repurchased from the Reserve Bank at a cost of $901 million;[79]
- early repurchases of stock due to mature within the next 12 months, designed to 'smooth' the cash management impact of the refinancing of the stock. Stock with a face value of $16.8 billion was repurchased in 1997–98 at a cost of $17.5 billion.[80] Such early repurchases reduce debt only when they are not financed by the issue of new debt; and
- early repurchase on-market of a series of longer-dated Treasury Bonds, intended to reduce the level of long-term Commonwealth debt. The size of the repurchase program is decided as part of the annual borrowing strategy that is approved by the Treasurer, usually as part of the Budget process. Figure 4.5 outlines the actual repurchases of longer-dated Fixed Coupon Bonds undertaken over the last two financial years.

[79] The price paid to the Reserve Bank by Treasury was based on an interpolated yield curve from published Reserve Bank data.

[80] The price paid was based on the closing yields published the evening prior to repurchase in the Reserve Bank's *Indicative Mid Rates* Media Release.

Figure 4.5

Market Repurchases of Long-dated Treasury Bonds: 1997–98 and 1998–99

Settlement Date	*Face Value ($m)* [1]	*Price Paid ($m)* [2]	*Premium[A] ($m)* [3]	*(%)*	*Interest Saving ($m)* [4]	*Total Nominal Saving ($m)[B]* [5]
21 November 1997	350.00	438.74	88.74	25	170.00	81.26
24 November 1997	350.00	443.34	93.34	27	172.50	79.16
1 December 1997	370.00	449.92	79.92	21	175.50	95.58
2 December 1997	360.00	447.20	87.20	24	177.00	89.80
3 December 1997	380.00	475.96	95.96	25	187.00	91.04
4 December 1997	260.00	312.02	52.02	20	124.50	72.48
9 December 1997	290.00	343.05	53.05	18	135.50	82.45
16 December 1997	320.00	390.02	70.02	22	160.00	89.98
17 December 1997	125.00	149.03	24.03	19	62.50	38.47
1997–98 Sub-total	**2,805.00**	**3,449.28**	**644.28**	**23**	**1,364.50**	**720.22**
9 November 1998	370.00	493.10	123.10	33	277.50	154.40
10 December 1998	227.89	304.95	77.06	34	170.92	93.86
21 December 1998	100.00	135.01	35.01	35	75.00	39.99
1 March 1999	200.00	255.35	55.35	28	140.00	84.65
1998–99 Sub-total	**897.89**	**1 188.41**	**290.52**	**32**	**663.42**	**372.90**
Total	**3 702.89**	**4 637.69**	**934.80**	**25**	**2 027.92**	**1 093.12**

Note:

[A] The current low interest rate environment makes the relatively high coupons on the Commonwealth's long-term marketable debt more attractive to investors, increasing its market price and, therefore, the cost of early repurchase. It is for this reason that the price paid to assume $3.70 billion of Fixed Coupon Bonds was $935 million (25 per cent) more than the face value.

[B] Calculated as future repayments of face value and payments of interest avoided by early repurchase less the cost of the repurchases (the price paid). That is, column [5] = column [1] plus column [4] less column [2].

Source: ANAO analysis of Treasury and Reserve Bank data.

4.22 Treasury confers with the Reserve Bank when deciding which long-dated bonds to repurchase. Treasury's priority is to ensure that the Commonwealth does not pay more than the assessed fair value for any parcel of stock.[81] Treasury has also expressed to the Reserve Bank a preference to repurchase longer-dated stocks in order to maintain portfolio duration in line with the portfolio benchmark, and stocks where there are currently two benchmark lines in the financial year.[82] For its

[81] Treasury derives the fair value of a stock from relative value analysis, which values each stock in terms of others on the yield curve as well as its own recent trading history.

[82] This is because ongoing fiscal consolidation could ultimately result in a Commonwealth yield curve with benchmark lines every second year only. A benchmark line of stock every two years would be sufficient to support the 3 year and 10 year futures contracts.

part, the Reserve Bank's approach takes into account Treasury's requirements and the Bank's own objectives of minimising disruption to the market and maintaining counterparty relationships.

4.23 To achieve value for money from the repurchases, Treasury and the Reserve Bank undertake ongoing monitoring of market indicators to identify stock that is trading cheaply relative to its assessed fair value. Furthermore, the approach adopted to on-market repurchase through the Reserve Bank is intended to provide the necessary flexibility to take advantage of favourable market conditions and minimise price disruption.[83] For these reasons, the Reserve Bank undertakes small purchases of stock during identified 'windows of opportunity' before on-selling this stock to Treasury in larger parcels at the weighted average price at which the Reserve Bank purchased the stock on market.

4.24 The major alternatives to a repurchase program through the Reserve Bank would be reverse tenders or reverse taps.[84] Reverse tenders were used for a short time during the late 1980s when budget surpluses had occurred. Treasury considers that reverse tenders or reverse taps could be more expensive than on-market purchases through the Bank as a result of the Commonwealth disclosing its repurchase program, possibly leading to increases in the price at which stock could be acquired. Nevertheless, Treasury and the Reserve Bank recognise that if stock proves difficult to acquire at acceptable prices, or if there is a desire to fully repurchase a line of stock, reverse tenders or reverse taps may need to be considered.

Cash management implications

4.25 The variability of bond market prices causes the cost of repurchasing Commonwealth debt to vary significantly. In order to retire Commonwealth debt at the lowest long-term cost, it is important that the Commonwealth cash management framework be sufficiently flexible to allow debt repurchases to be undertaken at optimal times, and that cash management activities assist planning for and timing of repurchases.[85]

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[83] At the time the Reserve Bank undertakes the repurchases, there is no public announcement that the Commonwealth is repurchasing the bonds in question (only sometime after the repurchase is information publicly available in respect of the repurchases). To date, this method has been found to allow repurchases of significant volumes of stock at prevailing market prices.

[84] A reverse tap system involves a standing offer to repurchase stock at a set price.

[85] The ANAO Better Practice Guide *Cash Management in the Commonwealth Public Sector* released in March 1999 provides further information on what cash management involves for Commonwealth agencies and why it is important.

4.26 Commonwealth cash balances generally follow a cyclical pattern with quarterly peaks from the receipt of company tax and provisional tax revenue. Outside these times, cash outlays generally exceed revenues, requiring the issue of debt. The timing of debt repurchases is determined by the availability of cash balances and Treasury's flexibility to undertake debt repurchases at short notice when cost savings are possible. To improve the flexibility of the repurchase program[86] and reduce the cyclical pattern of Treasury Note issuance, Treasury, with the Reserve Bank's agreement, has put in place a term deposit facility with the Bank. The terms of this facility are:

- the interest rate on deposits is at market yields (based on the yield on Treasury Notes for a similar term) at the time the deposits are lodged. Interest on term deposits of less than six months to maturity would be paid on the maturity of the deposits;
- early withdrawal would be possible but a penalty rate might apply if there has been a marked change in yields since the deposit was made; and
- the deposit would not form part of the Commonwealth's cash balances at the Reserve Bank, nor would it be taken into account in determining if the overdraft group of accounts was in debit.[87]

4.27 As of May 1999, Treasury had made four term deposits with the Reserve Bank. The first two deposits (for a total of $1.5 billion) were made on 2 December 1998. These two term deposits matured in February and March 1999. A further term deposit of $1.5 billion was made on 1 March 1999[88] at the same time as Treasury repurchased $200 million of Fixed Coupon Bonds from the Reserve Bank at a cost of $255 million. This was followed by $500 million deposited on 29 April 1999.

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[86] Treasury was concerned that the existing cash framework limited its flexibility to repurchase debt as a result of: Treasury Notes (with only three maturities of 5 weeks, 13 weeks and 26 weeks) being the only debt instrument that enabled funds to be raised at short notice; the need to minimise to meet the end-of-year average cash balance target; and the just-in-time borrowing philosophy.

[87] The initial two term deposits remained part of the Commonwealth Public Account although Treasury and the Reserve Bank agreed that future term deposits would be held outside the Commonwealth Public Account.

[88] This deposit matured in May 1999.

4.28 Finding: The repurchase of long-dated Commonwealth Government Securities offers the potential to reduce public debt interest and the Commonwealth's exposure to market risk. The size of the repurchase program is established during the development of the annual borrowing program, with Treasury prepared to repurchase bonds which appear to be trading below their fair value. Since 1997–98, Treasury has repurchased $3.7 billion in long-dated Fixed Coupon Bonds at a cost of $4.6 billion, representing a $935 million, or 25 per cent, repurchase premium. The repurchases have resulted in a total nominal saving of $1.1 billion. More recently, Treasury has begun to invest surplus cash with the Reserve Bank, through a term deposit facility.

Asset sale proceeds

4.29 The Government's policy is to use the proceeds of asset sales primarily to reduce government debt and interest obligations rather than funding recurrent expenditure.[89] Between 1 July 1996 and June 1999, Commonwealth asset sales have raised some $25 billion in cash proceeds, including:

- the July 1996 sale of the Commonwealth's remaining shareholding in the Commonwealth Bank of Australia which returned cash proceeds of $3.8 billion from the July 1996 first instalment[90] and $1.6 billion from the second instalment which was payable by 14 November 1997;[91]
- between June 1997 and June 1998 long-term leases over 17 Federal airports have been sold raising gross proceeds of $4.0 billion;[92] and
- the sale of one-third of the Commonwealth's equity in Telstra Corporation Ltd raised gross proceeds of $8.4 billion in November 1997 from the first instalment.[93] A further $5.8 billion was received for the second instalment which was payable by 17 November 1998.[94]

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89 *Privatisation in the Public Interest and for the Public Benefit*, Liberal and National Parties' Policy, 1996, pp. 3-4.

90 Audit Report No.13 1997-98, *Third Tranche Sale of the Commonwealth Bank of Australia*, pp. 32-34.

91 Some $47 million was deposited with the Reserve Bank after the due date but before May 1998.

92 Audit Report No.38 1997-98, *Sale of Brisbane, Melbourne and Perth Airports*, p. 58 and Audit Report No.48 1998-99, *Phase 2 of the Sales of the Federal Airports*, p. 28.

93 Audit Report No.10 1998-99, *Sale of One-third of Telstra*, pp. 11 and 92.

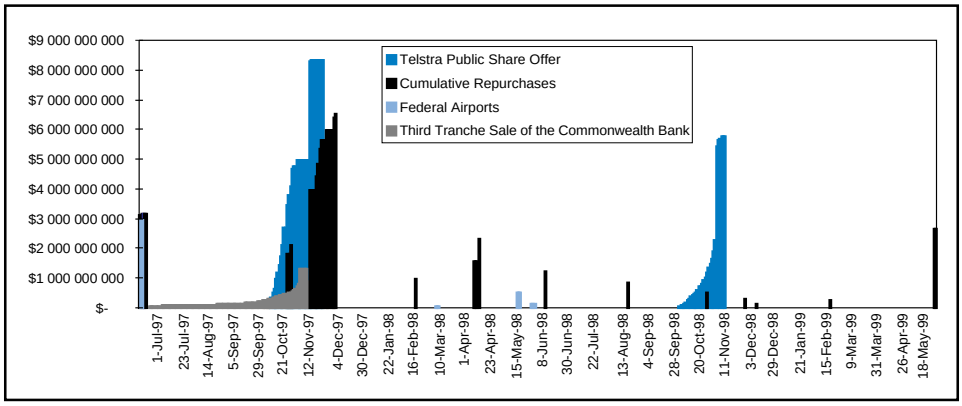
94 Approximately $397 million was deposited with the Reserve Bank after the due date but by March 1999. OASITO advised ANAO that 93 per cent of funds were deposited by the due date of 17 November 1998 and 99 per cent by 20 November 1998. OASITO commented that: *allowing for the usual administrative processes of cheque clearances and the like, we think that this performance was really rather good.*

The proceeds from this sale were to be used to fund the Natural Heritage Trust ($1.15 billion) and the Regional Telecommunications Infrastructure Fund ($250 million)[95] with the balance expected to contribute to a reduction in Commonwealth public debt.

4.30 Forecasts of the expected timing and quantum of sale proceeds are used by Treasury to plan debt issuance and / or on-market repurchases by the Bank of long-dated stock. Typically, the Bank undertakes the on-market purchases in advance with Treasury purchasing the stock from the Bank after the proceeds have been deposited into the Official Public Account. When received, these proceeds provide a one-off cash injection, which reduces the need to issue debt to finance other expenditure or to refinance maturing stock. Large volumes of debt are generally repurchased in periods of significant cash surplus which occur when company tax and provisional tax is received in the first week of March, June, September and December or when large asset sales proceeds are received (see Figure 4.6).

Figure 4.6

Debt repurchases and asset sale proceeds: July 1997 to June 1999



Source: ANAO analysis of data from Treasury, Reserve Bank and the Department of Finance and Administration.

4.31 Figure 4.6 illustrates the complex relationship between asset sales proceeds and Commonwealth debt repurchases. Asset sales proceeds form one element of the Commonwealth's cash balance position. Whether these proceeds contribute to a direct repurchase of Commonwealth debt depends on a number of factors including: the timing of asset sales proceeds and other Commonwealth expenditures and receipts; the ability to use asset sales proceeds to finance maturing debt thereby reducing

[95] Audit Report No. 43 1998-99, *Networking the Nation - The Regional Telecommunications Infrastructure Fund*, examined the administration of this program.

debt issuance; and the cost-effectiveness of debt repurchases as against, for example, use of the term deposit facility with the Reserve Bank. Accordingly, asset sale proceeds are not always used to repurchase debt.

4.32 The interrelationship between Treasury and the Office of Asset Sales and IT Outsourcing (OASITO—the agency responsible for implementing the sale of major Commonwealth assets) is important in planning the issue and repurchase of Commonwealth debt. This is because Treasury relies on information from agencies to forecast revenues and expenses and changes in the quantum and/or timing of these cash flows can significantly alter Treasury's borrowing and repurchase decisions.

4.33 Treasury develops a profile of the pattern of receipts expected from major asset sales based on information provided by OASITO and previous asset sales experiences. The most financially significant recent Commonwealth asset sale was the 1997 Initial Public Offering of shares in Telstra Corporation Ltd. Treasury experienced a number of difficulties forecasting the timing and size of the receipt of proceeds from the Telstra offer relating to deficiencies in the data provided by OASITO concerning the collection process to apply to the different elements of the offer,[96] and delays in banking of some of the sale proceeds.[97] OASITO advised ANAO that it:

> *is unaware of any statutory or administrative requirement that stipulates the data that OASITO is required to provide to Treasury for this purpose. In the 3 years that this Office has been operating, I have received no requests at the Chief Executive level for this information. To the best of my knowledge and to the best of the recollections of OASITO officers, every informal and ad hoc request from Treasury has been met in full. Treasury officers were invited to each meeting of our ad-hoc inter-departmental group that met periodically during Telstra 1. They did not raise any concerns on this point in that group. Treasury never raised with us any suggestion that our information provision, in any way, fell short of their requirements. In this respect, it appears to me to be unreasonable to suggest that our data was "deficient".*

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[96] One example noted by Treasury was that it was not made aware of the process for refunding retail oversubscriptions until late November 1997 and was not provided with advice about the timing and quantum of some $928 million in refunds to retail applicants which, therefore, had an unanticipated impact on the Commonwealth's liquidity position.

[97] Delayed receipt of revenue affects Commonwealth cash management by reducing the Commonwealth's cash balances which may necessitate the bring forward of short-term borrowing and/or delay repurchases. In this instance, initial delays in the processing and banking of retail application monies for the 1997 Telstra Initial Public Offer caused an early repurchase of $1.8 billion worth of January 1998 Fixed Coupon Bonds to be postponed until sufficient applications were processed to fund the repurchase. More generally, Treasury's program of Treasury Note issuance also needed to be adjusted.

4.34 OASITO further advised ANAO that improved advice from Treasury concerning its data requirements would assist OASITO meet Treasury's information needs but that, in any event, sale proceeds can be difficult to accurately forecast until the issue price and allocation of shares has been decided.

4.35 **Finding:** In the last three years, Commonwealth asset sales have raised some $25 billion in cash proceeds of which the major sales have been the Telstra Initial Public Offer with $14.2 billion, the third tranche sale of the Commonwealth Bank of Australia with $5.4 billion and $4.0 billion from the leasehold sale of 17 Federal Airports. The inflow of funds from these asset sales has reduced the need to issue new debt and provided funds which have contributed to the repurchase of Commonwealth debt.

4.36 The ability to accurately forecast the timing and quantum of the significant cash flows associated with major Commonwealth asset sales is important to Treasury's borrowing and repurchase programs. Treasury experienced a number of difficulties with forecasting the timing and size of the receipt of proceeds from the 1997 Telstra public share offer owing to deficiencies in the data provided to it by OASITO and delays in banking of sale proceeds. OASITO has also pointed to the need to improve Treasury's communication of its information requirements.

5. Financial Derivatives

This chapter discusses Treasury's use of financial derivatives to move the actual debt portfolio toward, and maintain it at, the benchmark portfolio target ranges for foreign currency exposure and duration.

Introduction

5.1 The development and use of a range of financial derivatives arose as a result of fundamental changes in financial markets including their increasing globalisation. A derivative's value derives from the value of one or more underlying reference assets, rates or indices. Derivatives contracts can be privately negotiated agreements between dealers and end-users (known as over-the-counter (OTC))[98] or standardised contracts sold on exchanges.[99]

5.2 Financial institutions, commercial firms and government entities that use derivatives to manage (or hedge) their financial risks or speculate are called end-users. Dealers use derivatives for the same purposes as end-users but also earn income from buying and selling (trading) derivatives. Dealers are usually large banks, securities firms or insurance companies. Derivatives are used by both end-users and dealers to: protect (hedge) against adverse changes in the value of assets or liabilities; attempt to profit (speculate) by anticipating changes in market rates or prices; and/or obtain more desirable financing terms.

5.3 Treasury's use of derivatives came about following a 1987 consultancy report by Baring Quantitative Finance Limited on the management of the Commonwealth's external debt. The Baring's report recommended that Treasury: use economic rather than accounting costs to define and implement its debt management objectives; adopt portfolio optimisation techniques to assist with the choice of currency, maturity and fixed/floating mixes; and engage in OTC swap[100] derivatives to take advantage of market inefficiences and alter the structure of the debt portfolio. Acceptance of these recommendations led to the passage of

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98 A recent survey by the Reserve Bank found that total OTC derivatives turnover in Australia averaged US$32 billion per day in April 1998, an increase of 23 per cent from 1995. Source: Reserve Bank of Australia, *Bulletin*, October 1998, pp. 24-25.

99 Exchange traded derivatives are standardised as to maturity, contract size and delivery terms.

100 A swap is a contractual arrangement between two parties to exchange a series of payments, calculated by reference to a notional principal, over a specified period of time. Swaps can be broken down into the separate payment obligations of each of the parties. These payments are calculated by reference to an actual or notional amount similar to the principal on a loan.

the *Loans Securities Amendment Act 1988* which gives the Treasurer and nominated delegates specific power to use swaps and other hedging techniques for debt management purposes.

5.4 The annual swaps strategy, which is part of the overall debt management strategy, is endorsed by the Treasurer in the Budget preparation context. The swaps strategy is determined by reference to the benchmark target range for the foreign currency share of the portfolio and the benchmark duration target ranges for both domestic and foreign currency portfolio shares. The swaps strategy is set as part of the broader debt management strategy aimed at moving the actual portfolio toward, and maintaining it at, the benchmark target ranges. Between May 1988 and June 1999, Treasury entered into 332 swap transactions with a notional principal value of around $38 billion.[101]

5.5 Treasury entered into its first cross-currency swap[102] agreement in May 1988. Prior to 1991–92, cross-currency swaps were used to change the currency composition of the Commonwealth's existing foreign currency liabilities (that is, swap out of one foreign currency into a different foreign currency). The cross-currency swap program was extended in 1991–92 in order to generate targeted exposure to a desired foreign currency (principally United States dollars). This move was based on portfolio consultancy advice that selective foreign currency exposure offered cost and risk advantages to the Commonwealth. Swaps were assessed by Treasury to be more cost-effective than direct issuance in offshore markets as a means of obtaining this targeted exposure.[103] In this sense, Treasury does not use swaps to hedge existing exposures, but creates new exposures to try and reduce debt costs for an acceptable level of risk.[104]

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[101] This figure includes four swap transactions that were assumed by Treasury following the sale of the intrastate freight and interstate passenger rail businesses of the Australian National Railways Commission and the leasehold sale of airports previously operated by the Federal Airports Corporation. The notional principal value of these four swaps was $0.5 billion.

[102] For cross-currency swaps, the two sides of the contract are denominated in different currencies. There is usually an exchange of currencies for the principal amount of the swap on commencement and maturity of the transaction. Interest payments on the swap can simply involve swapping the currency in which these payments are denominated or fixed rates can be swapped to floating rates and vice-versa.

[103] In comparison, ANAO was advised by Macquarie University's Centre for Studies in Money, Banking and Finance that State governments have often issued debt offshore in United States dollars and then swapped back into Australian dollars at a reduced cost compared to issuing directly in Australian dollars.

[104] Hedging is a process used to offset an existing risk associated with an underlying transaction. For a risk to be managed with a hedge, there needs to be an instrument whose value displays a high degree of inverse correlation with the value of the position to be hedged. In Treasury's case, it has minimal exposure to foreign currency risk with very little foreign currency denominated debt on issue. Treasury enters into cross-currency swaps to obtain exposure to United States dollars (see Chapter 3).

5.6 Until 1997–98, Treasury focused on achieving domestic interest rate exposure objectives through debt issuance and debt redemption activities. In July 1997, the Treasurer approved a proposal that Treasury use domestic interest rate swaps[105] to change the interest rate exposure of the portfolio. Treasury's proposal recognised that reduced borrowing requirements for 1997–98 and the forward estimates period meant it would be difficult to adjust portfolio duration (interest rate risk) through debt issue and redemption activities.

5.7 **Finding:** A 1987 consultancy report by Baring Quantitative Finance Limited recommended Treasury engage in OTC swap derivatives to alter the structure of the debt portfolio. Between May 1988 and June 1999, Treasury entered into 332 swap transactions with a notional principal value of around $38 billion. Treasury uses swap derivatives to adjust the currency composition and duration of its overall debt portfolio in pursuit of a portfolio benchmark that it believes will reduce debt costs for an acceptable level of risk. Accordingly, Treasury does not use swaps to hedge existing exposures, but creates new exposures to try and reduce debt costs for an acceptable level of risk.

Internal control framework

5.8 Although originally developed as a risk management tool, derivatives also involve risks that need to be managed. In recent years a number of entities have suffered significant financial losses associated with derivatives.[106] Subsequent reviews have attributed the losses, in part, to flawed corporate governance systems that did not establish effective risk management and internal controls to ensure that approved policies and risk limits were applied and were effective.

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[105] Interest rate swaps involve the parties entering into a contract to exchange interest payments over a specified period of time. Usually this involves one party paying a floating rate of interest on a specified principal amount with the other party paying a fixed rate of interest on the same principal amount. Interest rate swaps enable entities to arbitrage different credit ratings to gain a cost saving or reduce the risks involved in funding fixed rate or long-term debt with floating rate or short-term funds.

[106] For example, in February 1995 the Barings investment bank failed as a result of over $1 billion in futures and options trading losses incurred by one of its employees. Similarly, in December 1994, Orange County in California filed for bankruptcy after losing an estimated $1.7 billion on the county Treasurer's large and highly leveraged investments. Another example involved a major OTC derivatives dealer which, according to the Federal Reserve Bank of New York, failed to adjust its internal controls in response to a riskier new line of business, namely marketing and sales of leveraged derivatives. Source: United States General Accounting Office, *Financial Derivatives - Actions Taken or Proposed Since May 1994*, November 1996, Chapter 2:1.

5.9 The complexity of derivatives further emphasises the importance of maintaining sufficient and effective internal controls to manage risk. The Basle Committee on Banking Supervision[107] advocates the following basic principles of sound management practice for users of derivatives instruments:

- appropriate oversight by boards of directors and senior management;
- an adequate risk management process that integrates prudent risk limits, sound measurement procedures and information systems, continuous risk monitoring and frequent management reporting; and
- comprehensive internal controls and audit procedures.

5.10 Treasury has advised ANAO that it envisages that the governance arrangements for the AOFM will include a Board of suitably qualified and experienced individuals, which will provide more focused and specialist oversight of the Commonwealth's debt management activities. The establishment of this Office will also provide an opportunity for senior management to be regularly informed of the risk exposures on derivatives activities and to regularly re-evaluate significant risk management policies and procedures. It will also be important that senior management ensure: adequate resources are applied to establishing sound and effective risk management systems; staff are suitably trained and experienced; and that risk tolerances are clearly defined and appropriately approved.

5.11 Treasury's September 1997 consultancy report[108] on institutional and resourcing arrangements for Commonwealth debt management concluded that Treasury's control environment is essentially sound, with a clear segregation of duties and the engagement of consultants to assist in the provision of financial market software as part of broader consultancy aims.[109] The consultancy report focused on the control framework and did not involve testing of compliance with this framework.

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[107] The Basle Committee on Banking Supervision is a committee of banking supervisory authorities that was established by central bank Governors of the Group of Ten countries in 1975. It consists of senior representatives of banking supervisory authorities and central banks from Belgium, Canada, France, Germany, Italy, Luxembourg, the Netherlands, Sweden, Switzerland, the United Kingdom and the United States. It usually meets at the Bank for International Settlements in Basle, where its permanent Secretariat is located.

[108] This aspect of the consultancy was undertaken by BT Risk Management Advisory Pty Ltd.

[109] The report did note, however, significant broader deficiencies in the operational risk management framework particularly in relation to business continuity planning, disaster recovery testing, information systems and the lack of a comprehensive, consolidated policies and procedures manual.

5.12 To date, no internal audits or independent reviews of the controls associated with Treasury's use of financial derivatives have been undertaken. This can impair oversight of Treasury's derivative actions by senior management. Ideally, periodic internal audit examinations would be separate to, but supplement, the AOFM's ongoing monitoring activities designed to encourage procedural compliance and effectiveness. Internal audits undertaken by appropriately trained staff can provide an operationally independent assessment of the application and effectiveness of the internal control framework, including the effectiveness of ongoing monitoring activities. To be effective, they must be sufficiently rigorous and comprehensive to identify and report any control weaknesses, and management must be committed to correcting any weaknesses identified.[110]

5.13 **Finding:** Although originally developed as a risk management tool, derivatives use also involve risks that need to be managed. A 1997 Treasury consultancy report concluded that the Debt Management Office's control environment for derivative trades was essentially sound, but did not examine compliance with the control framework. In addition, no internal audits of the application and effectiveness of controls associated with Treasury's use of financial derivatives have been undertaken.

5.14 **Recommendation No.3:** ANAO *recommends* that, given the significant risks that are involved in derivative transactions, the Australian Office of Financial Management undertake periodic internal audits and commission external reviews of the application and effectiveness of the control framework for its use of financial derivatives.

AOFM response

5.15 Agreed.

Treasury response

5.16 Agreed.

[110] The role of internal audit is discussed further in Audit Report No. 46 1997-98, *Internal Audit.*

Legal risk

5.17 Legal risk arises when contracts are not legally enforceable or documented correctly. Legal risks associated with OTC derivatives are typically managed through the use of Master Agreements which establish standard terms and conditions applicable to derivatives transactions between two parties.[111] Consistent with market practice, Treasury uses the standard Master Agreement developed by the International Swap and Derivatives Association (ISDA) to establish the terms and conditions of its derivatives transactions with individual counterparties.[112]

5.18 Failure to complete a Master Agreement involves legal risks, particularly concerning the possible unenforceability of contracts,[113] and can exacerbate credit risks by jeopardising Treasury's ability to close out and net obligations of a counterparty in the event of counterparty default. Treasury's policy is to transact only with counterparties with which it has a signed Master Agreement in place. The only exception is where the Master Agreement has been agreed but is awaiting signature.

5.19 The ISDA Master Agreement was originally published in 1987 and a revised version was published in 1992 to accommodate its adoption in markets other than New York and London. As of December 1998, Treasury had entered into 53 Master Agreements. Of these, 23 were signed between 1989 and 1992, meaning that almost half of Treasury's Master Agreements do not reflect developments in the legal architecture since the 1987 ISDA version. This could have been rectified by: including special terms in each confirmation; negotiating entirely new Master Agreements; or entering into amendment agreements on a periodic basis.

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111 Master Agreements generally contain two parts, the body and a schedule. The body contains the terms (such as representations and warranties, covenants, events of default and netting arrangements) that will apply to all transactions under the Master Agreement and provides for a number of options. The schedule supplements and forms part of the Master Agreement, containing elections in relation to the options specified in the body and other negotiated terms in relation to credit, tax and legal issues.

112 Treasury advised ANAO on 29 April 1999 that, although it is not a member of ISDA, it is a member of the Australian Financial Markets Association (AFMA), which monitors and advises on ISDA developments. Treasury also advised that it is regularly represented at seminars run by AFMA on ISDA matters and that Treasury's Standard Schedule to the ISDA Master Agreement incorporates, as a starting point in negotiations with counterparties, the AFMA standard recommendations as outlined in its Guides to Over the Counter Documents.

113 In its influential 1993 report titled *Derivatives: Principles and Practices*, the private sector Group of Thirty concluded that enforceability represents the greatest risk faced by derivative market participants.

5.20 The dated nature of some of Treasury's Master Agreements could affect Treasury's ability to effectively manage credit risk in derivative transactions. Under the February 1995 Swap Counterparty Credit Policy, Treasury aims to include early termination clauses in its Master Agreements and, where a credit limit breach occurs as a result of a credit rating downgrade, all existing exposures to the counterparty are required to be reviewed and, where it is considered that the potential loss from default outweighs the risk of maintaining that exposure, swaps are either to be assigned to a third party or terminated.[114] However, under some of its older Master Agreements, Treasury does not have a right of early termination where the counterparty's credit rating has been downgraded.

5.21 Treasury advised ANAO that updating of its Master Agreements is considered on a case by case basis and involves a balancing of perceived benefits to the Commonwealth and the practicalities of renegotiation. Treasury's customary practice is to re-negotiate updated pre–1992 Master Agreements as opportunities arise. The exception is counterparties who have credit ratings downgraded below the Commonwealth's accepted minimum. This currently affects six of the pre–1992 Master Agreements. Treasury considers that there is no purpose in updating Master Agreements in such cases because, as a matter of administrative policy, it will not transact further swaps with them until the minimum credit rating is restored. Treasury advised ANAO that a further 11 counterparties covered by pre–1992 Master Agreements relate to counterparties which have merged and for which no live swap exists or counterparties now associated with entities for which a post–1992 Agreement is in place or under negotiation. Treasury advised ANAO that it considers that its approach to renegotiation of Master Agreements does not compromise its policies for managing the Commonwealth's credit risk exposure.

5.22 Nevertheless, ANAO noted that Master Agreements with some counterparties with which Treasury has significant exposures, and which are regularly invited to participate in swap tenders, are dated. Accordingly, there is merit in Treasury adopting a risk-based approach to prioritising Master Agreement updates. Priority could be given to updating Master Agreements with counterparties that are expected to regularly participate in swap tenders, and are therefore likely to enter into a significant number of swap transactions with Treasury.

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[114] Where credit limits are breached as a result of market movements, there is no requirement to assign or terminate any transactions, although this remains an option.

Governing law

5.23 Around half of Treasury's Master Agreements have been signed under Australian law, the remainder being governed by English or New York State law. Legal advice obtained by ANAO holds that there are advantages to having the provisions of the Master Agreements governed by Australian law. For example, Treasury may not be able to obtain definitive advice from its Australian legal advisers in relation to any issue of interpretation that arises in relation to the foreign law Master Agreements and would also need to retain foreign lawyers to advise.

5.24 Treasury advised ANAO that its opening position in the negotiation of Master Agreements is for the application of either New South Wales or Australian Capital Territory law due to the advantages such application presents to the Commonwealth. However, Treasury has found it necessary to adopt a case by case approach because certain counterparties are required by the rating agencies to have their Master Agreements subject to New York State law and some highly rated banks have advised they are unable to negotiate on the question of jurisdiction. In these circumstances, if Treasury was to insist on Australian law in all documentation, there would be a loss of competitive, highly-rated counterparties. Nevertheless, ANAO's examination of Treasury's swap portfolio revealed that there may be opportunities when updating Master Agreements with counterparties for Treasury to increase the number of contractual relationships that are subject to Australian law.[115]

Enforceability

5.25 Significant losses have been experienced by derivatives users and dealers when derivatives contracts were found to be unenforceable because counterparties did not have the necessary legal power and authority to engage in derivatives transactions,[116] or because particular terms of the contract were not legally sound. For this reason, Treasury

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[115] For example, although the Master Agreement with one particular counterparty was to be governed by English law, a May 1992 cross-currency swap with this counterparty amended the Master Agreement such that Australian law governs this particular transaction. Treasury advised ANAO that the adoption of Australian governing law for this transaction *appears to be an error on the part of* [the counterparty's] *Australian personnel. The Treasury is unaware of a conscious decision to vary the legal jurisdiction of the transaction. Invariably, the governing law to any transaction is that specified in the ISDA Master Agreement (otherwise there would be a contradiction as the transaction is also governed by the ISDA Master Agreement).*

[116] For example, the January 1991 decision of the United Kingdom House of Lords in *Hazell v Hammersmith and Fulham London Borough Council & Others* [1992] 2 AC 1 voided derivatives contracts between more than 130 local councils and over 75 of the world's largest banks. The House of Lords ruled that the London Borough of Hammersmith and Fulham, a local government authority that had been an active participant in the market for sterling interest rate derivatives, lacked the capacity to enter into those transactions.

should satisfy itself that its counterparties have the power and authority to engage in derivatives transactions, and that the counterparties' obligations arising from transactions are enforceable.

5.26 In relation to foreign counterparties, issues of power and capacity and due authorisation of transactions by the counterparty will be determined by reference to laws of the foreign jurisdiction. These issues can become particularly complicated for multi-branch counterparties which can be subject to the laws of a number of jurisdictions. Treasury advised ANAO that the provision of independent legal opinions on issues of power, capacity and due authorisation has not been indicated as a major issue by its legal advisers following their examination of Treasury's proposed Master Agreements.

5.27 Treasury also noted that the Commonwealth's counterparties are generally major international banks, whose normal business includes derivative transactions. On balance, Treasury considered reliance on internal legal opinions, certificates of incumbency from counterparties and/or provisions in the Master Agreements was appropriate given the core operations of financial institutions in derivative transactions, the standardisation of documentation and the high cost of seeking legal advice from offshore parties. Nevertheless, on a risk management basis, ANAO considers there may be merit in Treasury investigating obtaining greater assurance in relation to those counterparties that Treasury regularly transacts with and/or counterparties with whom Treasury has significant credit exposures.

5.28 **Finding:** Consistent with market practice, Treasury uses the standard Master Agreement developed by the International Swap and Derivatives Association (ISDA) to establish the terms and conditions of its derivatives transactions with individual counterparties. Some of these Master Agreements are dated, including those with which Treasury has significant exposures and which are regularly invited to participate in swap tenders. A number of the Master Agreements are subject to foreign laws and Treasury does not, as a matter of course, obtain independent legal advice concerning issues of power and capacity and due authorisation of transactions by foreign counterparties.

5.29 **Recommendation No.4:** ANAO *recommends* that the Australian Office of Financial Management improve its management of legal risk associated with derivative transactions by:

(a) prioritising the periodic update of Master Agreements with its major counterparties through amendment agreements or negotiating new Master Agreements;

(b) identifying opportunities to increase the number of Master Agreements that are subject to Australian governing law; and

(c) obtaining greater assurance concerning the power, capacity and due authorisation of counterparties to enter into swap transactions.

AOFM response

5.30 Agreed. AOFM commented that, in the past, resource limitations have constrained the priority that could be afforded to these matters. The additional resources that establishment of the AOFM allows will permit these matters to be accorded a higher priority.

Treasury response

5.31 Agreed. Treasury endorsed the AOFM response and comments.

Swap tenders

5.32 The processes used to implement the swaps strategy are endorsed by Treasury management. Interest rate and cross-currency swaps are financial contracts and, as such, need to be negotiated, agreed and documented. In accordance with its March 1998 Swap Operations Manual, Treasury transacts almost all of its swaps via a tender process under which a small number of counterparties are invited to bid by telephone on the swaps the Commonwealth wishes to execute.[117] The practice of seeking bids from more than one counterparty provides increased assurance that swaps are entered into on the best available terms.[118] Treasury advised ANAO that the tender process is more transparent than usual market practice where dealers select the counterparty with whom they wish to transact without seeking bids from other counterparties.

5.33 Individual derivative transactions are normally executed by telephone with the economic terms of the transaction documented in confirmations that are later exchanged between the two parties. In many jurisdictions, oral contracts are legally enforceable and, accordingly, traders' telephone conversations are recorded. This can resolve disagreement over swap terms and/or assist to enforce a derivatives contract that has not been documented by the parties.

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[117] Large swaps and/or non-standard swaps where the pricing of the swap is clearly more favourable than that expected to be offered by bidders in a tender may be transacted without a tender. Any such decisions are documented.

[118] It also provides protection against fraud by reducing the scope for Treasury officers to undertake transactions at non-market prices in return for personal financial gain.

5.34 Treasury does not have the facilities to record swap tenders conducted by telephone. Instead, Treasury has a policy of asking each bidder in a swap tender to confirm their bid by facsimile after the tender has been completed. However, facsimile bid confirmations did not exist for 22 per cent of unsuccessful bids in the swap tender sample of 176 examined by ANAO. Treasury advised ANAO that this was despite its practice to follow up with counterparties the provision of such bid confirmations. The absence of telephone recording facilities together with the absence of bid confirmations from the unsuccessful tenderer's for some swaps means it was not possible for ANAO to obtain assurance that the best price tenders are always selected.[119]

5.35 The formal swap confirmation process involves Treasury and the successful bidder confirming the details of the transaction in writing. This confirmation should include all the commercial terms (such as the notional amount, effective date, day count, rates and payment dates) and many of the legal terms. The confirmation supplements, forms part of and is subject to the relevant Master Agreement.[120]

5.36 ANAO examined a sample of 87 swap transactions with seven of Treasury's more significant counterparties in terms of both the number and value of swap transactions. The terms and conditions for each transaction were set forth in a written and signed confirmation exchanged by the parties. ANAO considers that this provides a sound contractual basis for the derivative transactions.

5.37 To minimise input error and maximise efficiencies in settlements it is advantageous for Treasury to achieve consistency among its confirmations. Swap confirmations with a sample of Treasury counterparties were examined as part of the audit and were found to be standard trades which are easily documented in a straightforward manner. This meant that there was limited scope for significant differences in the confirmations issued by the different counterparties.

5.38 Delays in confirming trades can increase legal risks (by jeopardising the enforceability of transactions) and market and credit risks (by allowing errors in trade records and management information systems to go undetected). Best practice is to confirm interest rate swaps

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[119] Australian Auditing Standard AUS 702 states that a limitation on the scope of an audit exists when sufficient appropriate audit evidence does not exist or is not available to the auditor.

[120] Master Agreements provide that the terms of the provisions in the schedule prevail over any inconsistent provisions in the body, and the provisions in confirmations prevail over any inconsistent provisions in the Master Agreement.

on the trade date or by noon on the day after the trade (tender) date.[121] It is prudent to confirm all derivative transactions before the transaction becomes effective which, in the case of cross-currency swaps, often involves an initial exchange of principal.

5.39 ANAO found that, among the 87 swap transactions examined in detail, a number were subject to significant delays in confirmation with 30 swaps confirmed one week or longer after the trade date. The majority of these were cross-currency swaps where a confirmation had not been issued before the initial exchange of principal had occurred and involved amounts of up to A$100 million. This is of concern because credit risk is greater for cross-currency swaps as the initial exchange of principal incurs a foreign exchange exposure for Treasury. The absence of both an electronic record of the tender process and a written confirmation before swap payments are made significantly increases the overall risks for the Commonwealth.[122]

5.40 Treasury advised ANAO that, in instances where there have been significant delays in confirmation and settlement issues have become material, it has sought to place pressure on the counterparty by refusing to undertake new trades with the counterparty until the documentation has been resolved.[123] Treasury further advised that it is standard market practice for price makers (such as banks and other financial institutions) to instigate confirmations and that it would be reluctant to overturn this convention in order to reduce confirmation delays.[124]

5.41 When a swap is confirmed, it is important that it constitute a binding agreement on both parties. However, Treasury advised ANAO that it does not formally check swap confirmations against lists of authorised signatories supported by resolutions of the counterparty. Given the risks involved, ANAO considers that it would be prudent for Treasury to undertake such checks as part of its swap confirmation process.

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[121] The Australian Treasury Operations Association, *ATOA Treasury Operations Handbook*.

[122] For example, settlement risk is exacerbated where Treasury has not received and finalised a swap confirmation before payments are made to the counterparty.

[123] For example, a $100 million interest rate swap was transacted with one counterparty on 13 August 1997. The effective date of the swap was 14 August 1997 (although a confirmation was not issued until 18 November 1998) with semi-annual exchanges of interest. Delays were experienced in receiving the first three payments from the counterparty ($1.1 million in February 1998, $1.1 million in August 1998 and $950 000 in February 1999). Treasury has not invited this counterparty to participate in further swap tenders and considered unwinding the swap at the counterparty's expense.

[124] The Bank for International Settlements has noted that one or both parties may initiate the confirmation process: for trades between two dealers both parties usually issue a confirmation whereas end-users (such as Treasury) typically do not issue confirmations but review confirmations prepared by dealers. Source: *OTC Derivatives: Settlement Procedures and Counterparty Risk Management*, Basle, September 1998, p. 19.

5.42 **Finding:** The interest rate and cross-currency swaps used by Treasury obligate the two parties to the contract to exchange a series of cash flows at specified intervals known as payment or settlement dates. It is therefore important that the contract specifications are agreed between the counterparties, properly documented and adhered to, and that mechanisms exist to maintain and safeguard contract documentation. ANAO found that there are opportunities to improve the design and application of internal controls in relation to recording of swap tenders conducted by telephone and the processes for documenting the financial terms of swap transactions.

5.43 **Recommendation No.5:** ANAO *recommends* that the Australian Office of Financial Management enhance the swap tender process by:

(a) electronically recording swap tenders in order to assist resolution of any disagreements with counterparties over swap terms and/or assist enforcement of any undocumented trades;

(b) prioritising its follow-up of outstanding counterparty confirmations according to the age of the transaction, the amount of time before a payment is due and whether the transaction involves a credit exposure for the Commonwealth; and

(c) as part of its swap confirmation process, formally checking swap confirmations against lists of authorised signatories supported by resolutions of the counterparty.

AOFM response

5.44 Agreed. AOFM commented that resource limitations have constrained the scope to enhance established processes in this regard. The additional resources that establishment of the AOFM allows will provide the scope to enhance these processes.

Treasury response

5.45 Agreed. Treasury endorsed the AOFM response and comments.

Credit risk

5.46 The Commonwealth assumes credit risk when it enters into a swap agreement: that is, the risk of the counterparty defaulting on its financial obligations under the swap agreement. As interest and exchange rates move over time, the market value of the swap agreement will also change. Where the market value of the swap has increased from the Commonwealth's point of view, any default by the counterparty would result in the Commonwealth suffering a financial detriment through the opportunity cost of being unable to exercise the swap and realise the

gain[125] it has made from hedging its market risk exposure. It is therefore important that this risk be appropriately managed to realise the benefits of market activities.[126]

5.47 Treasury's use of derivatives is governed by the Swap Counterparty Credit Policy. The Credit Policy has evolved as the swap program has grown and as changes have occurred in derivative market practices. The current Credit Policy was approved by the then Treasurer in February 1995 and addresses both the probability and economic consequences of counterparty default:

- ***Probability of default*** is assumed to be related to the financial soundness of the counterparty, as reflected in its credit rating. Treasury only transacts with counterparties that meet a minimum credit rating standard with the maximum allowed credit exposure increasing with higher credit ratings.
- Separate, but related, ***exposure limits*** have been established for market (or actual) exposure[127] and potential exposure[128] for the different categories of approved counterparties.[129]

5.48 An important element of Treasury's approach to credit risk is the assignment of counterparty credit limits. The Swap Counterparty Credit Policy provides that Treasury may only undertake swap transactions with highly rated counterparties, with counterparty credit limits assigned for those parties that meet the minimum standard. The counterparty credit limits are scaled according to the counterparty's credit rating: the more highly rated the counterparty, the larger is the credit limit.[130]

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125 That is, Treasury is not exposed for the full face value of the swap contracts. Instead, the amount at risk is restricted to the potential cost of replacing the cash flow on contracts showing a positive value.

126 There is counterparty risk even when the swap has a negative current market value because of the possibility of future price movements leading to a positive market value.

127 The actual cost that the Commonwealth would incur at current market rates if a counterparty were to default on its swap obligations. It represents the current cost to the Commonwealth of replacing a particular swap.

128 Represents the Commonwealth's possible future exposure to a counterparty during the remaining life of the swap.

129 Those with current International Swap and Derivatives Association Master Agreements with Treasury. A Master Agreement specifies the legal framework governing individual swap transactions between the parties.

130 The different categories of counterparties are sovereigns, OECD banks, general reinsurance companies and corporates. The amount of the credit limits is directly related to the category and credit rating of the counterparty. Credit ratings are reviewed on a regular basis and credit allocation amended accordingly. Throughout this process and all credit risk management activities, Treasury is reliant upon the work of external credit rating agencies to perform credit ratings.

Swap payments and receipts

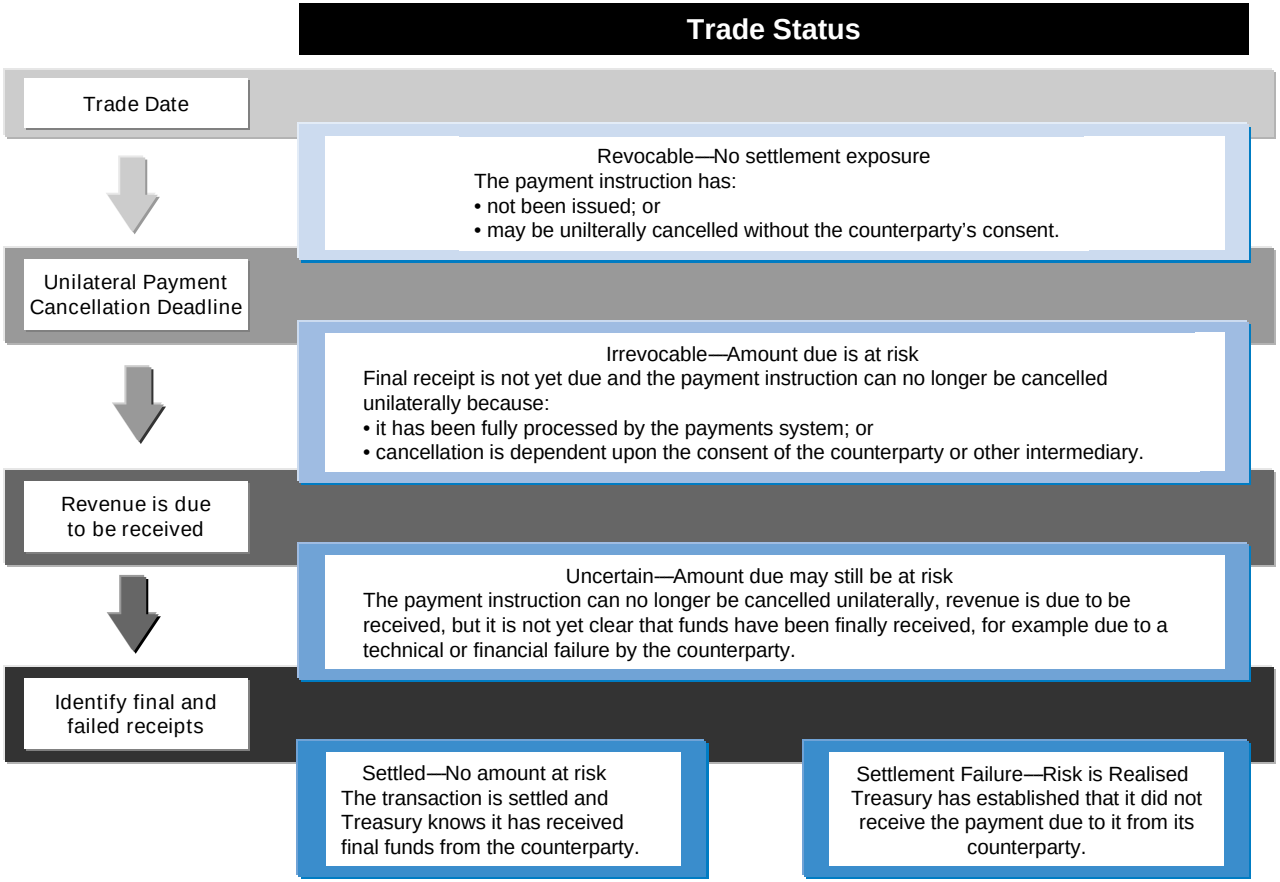
5.49 Credit risk is the risk of the counterparty defaulting on its financial obligations under the swap agreement resulting in a financial loss to the Commonwealth. The calculation of the amounts to be paid and received is determined by the terms of the swap confirmation and the provisions of the Master Agreement. Credit risk is realised when a counterparty defaults on its obligations to make periodic interest payments or, in relation to cross-currency agreements, the initial or final exchange of principal. Although measures can be taken to manage and reduce the risk of counterparty payment default, the risk cannot be eliminated as it is inherent in Treasury's derivative dealings. For this reason, it is important that cost-effective steps be taken to reduce the chances, and mitigate the financial consequences, of counterparty payment defaults.

5.50 Treasury has developed detailed procedures to cost-effectively administer swap payments and receipts. Consistent with these procedures, Treasury has adopted payment netting[131] for all Australian dollar interest-rate swaps, effectively reducing its credit risk exposure on these transactions.

5.51 There are practical timing difficulties associated with coordinating cross-border payments and settlements. Figure 5.1 outlines the major steps involved in settling a foreign exchange receipt from a settlement risk perspective.

[131] Payment (or obligation) netting is the legally binding netting of amounts due in the same currency for settlement on the same day under two or more trades. It requires the counterparties to settle on the due date all of the trades included in the agreement by either making or receiving a single payment. This reduces the amount at risk (credit risk) by lowering the number and size of payments that would otherwise have been required to settle the underlying transactions on a trade-by-trade basis.

Figure 5.1
Settlement Risk in Foreign Exchange Transactions



Source: *Settlement Risk in Foreign Exchange Transactions*, Report prepared by the Committee on Payment and Settlement Systems of the central banks of the Group of Ten countries, Basle, March 1996, pp. 33–34.

5.52 Effective management of the settlement process on cross-currency swaps requires Treasury, through the Reserve Bank (which acts as Treasury's settlement agent for foreign currency payments and receipts), to identify the unilateral payment cancellation deadline for each transaction, know when it is due to receive irrevocable payment, and to monitor receipts from counterparties to identify failed receipts.

5.53 ANAO's review of Treasury records identified instances where counterparties have not fulfilled their settlement obligations to the Commonwealth. In each instance, Treasury had identified that funds had not been received and immediately sought payment from the counterparty. In all of these cases, Treasury succeeded in obtaining payment from the counterparty, together with penalty interest for the delay. Most delays were quickly resolved. Nevertheless, in all instances Treasury remained exposed to significant settlement risk, having already irrevocably transferred funds to the counterparty.

5.54 **Finding:** Settlement risk on Australian dollar interest rate swaps was effectively managed by Treasury, in particular by taking advantage of the ability to net payments and receipts on individual swap transactions. Cash flows on cross-currency swaps are unable to be netted. Accordingly, Treasury has implemented effective administrative procedures to monitor payments by swap counterparties, and responded appropriately to any delays.

Market risk

5.55 Market risk represents exposure to the possibility of financial loss resulting from unfavourable movements in interest and exchange rates. The United States General Accounting Office has reported that, although only limited data exists on the extent of unanticipated losses due to market risk involving derivatives, the available data indicate that such losses can be significant.[132] More generally, in January 1996 the Basle

[132] For example, the General Accounting Office noted that end-users have suffered large losses by either speculating using derivatives or failing to properly manage attempts to hedge their business activities. One reported instance involved a large international firm losing more than $1 billion in derivatives transactions after market prices moved against its derivatives transactions. It was further noted that reports were beginning to appear about unanticipated derivative losses totalling in the hundreds of millions of dollars by some United States firms. Source: United States General Accounting Office, *Financial Derivatives: Actions Needed to Protect the Financial System*, GAO/GGD-94-133, May 1994, p. 63.

Committee on Banking Supervision released an amendment to its Capital Accord to require banks to hold minimum capital levels against market risk.[133]

5.56 The market value of a swap reflects the economic value of expected future cash flows on the transaction, which are a function of movements in interest and/or exchange rates and the maturity of the contract.[134] Treasury uses software provided by its portfolio management consultant to undertake its market valuations. As of 30 June 1999, Treasury valued its swap portfolio to be $1.297 billion 'out of the money' meaning that, at 30 June 1999, Treasury estimates that it has made an unrealised loss by entering into the outstanding swaps.

5.57 The **direct economic** gain or loss on swap contracts is calculated as the change in market value over the relevant period adjusted for net cash flows received and paid during the period. Figure 5.2 outlines the economic returns on Treasury's swap program since its inception. According to data provided to ANAO by Treasury, in 1998–99 Treasury made a direct economic gain of $222 million after making a direct economic loss of $1.97 billion in 1997–98. Significant year-by-year variations are also evident in earlier years. Overall, in the 12 years since it commenced entering into swaps, Treasury has made a direct economic gain of $539 million. This comprises a direct **realised gain** of $1.836 billion in cash flows and a direct **unrealised loss** of $1.297 billion. This latter figure is the current market value of the outstanding swaps, which represents the unrealised remaining future cash flows on these swaps.

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[133] Basle Committee on Banking Supervision, *Overview of the Amendment to the Capital Accord to Incorporate Market Risks*, January 1996 and *Amendment to the Capital Accord to Incorporate Market Risks*, January 1996. The Australian Prudential Regulation Authority's (APRA) *Prudential Statement C3 – Capital Adequacy of Banks: Market Risk* adopted the Basle Committee's guidelines. APRA took over the bank supervision function from the Reserve Bank on 1 July 1998 and adopted the Prudential Statements previously issued by the Reserve Bank.

[134] As 'marking to market' the portfolio reflects the current value of the portfolio cash flows as well as providing information about market risk, this risk management tool provides information concerning both past performance of the derivatives portfolio and current risks. Source: The Group of Thirty, *Derivatives: Practices and Principles: Working Party of the Valuation and Market Risk Management Subcommittee*, p. 5.

Figure 5.2

Economic Returns on Swap Transactions: 1987–88 to 1998–99

Year	*Cross-currency swap cachflows $m*	*Interest rate swap cashflows[A] $m*	*Change in market value[B] $m*	*Economic gain/(loss) $m*
1987–88	(10.9)	n/a	(50.4)	(61.3)
1988–89	(34.5)	n/a	(64.5)	(99.0)
1989–90	(58.7)	n/a	46.4	(12.3)
1990–91	(21.7)	n/a	(99.0)	(120.7)
1991–92	24.0	n/a	323.7	347.7
1992–93	90.6	n/a	110.8	201.4
1993–94	212.2	n/a	12.9	225.1
1994–95	570.5	n/a	(257.1)	313.4
1995–96	455.6	6.6	864.0	1326.2
1996–97	812.0	9.2	(651.5)	169.7
1997–98	104.9	53.8	(2 131.2)	(1972.5)
1998–99	(503.0)	125.2	599.3	221.5
Total	**1 641.0**	**194.8**	**(1 296.6)**	**539.2**

Note:

[A] No interest rate swaps were entered into before 1995–96.

[B] Market valuations were provided to ANAO by Treasury. Treasury advised that the valuations were based on its market rates data collection back to 1996. Earlier data is based on historical series collected from a number of sources and combined into one data set. Prior to 1990, assumptions were required to construct some data series'.

Source: ANAO analysis of data provided by Treasury.

5.58 In addition to the direct economic returns, swap transaction cash flows have **indirect effects** to the extent to which they change the Budget financing requirement and therefore change required debt issuance. Estimation of these indirect effects requires assumptions to be made about their effect on the borrowing program and the appropriate interest rates to use. Treasury estimates that the indirect financing effect of realised cash flows on swap transactions up to 30 June 1999 has, in aggregate, resulted in public debt interest savings of $404.7 million on cross-currency swaps and $9.2 million on interest rate swaps.[135]

5.59 In Treasury's annual financial statements the cash flows associated with the swaps (interest revenue and expense flows) are booked to the Operating Statement, with accruals appropriately taken up as net assets and liabilities.[136] In addition, the net face value of the swap transactions are recorded as liabilities and assets in the Balance Sheet with the nature,

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[135] In calculating these indirect effects, Treasury assumed that all swap cash flows were either financed or invested in the cash market and rolled over for the period up to 30 June 1999. This compounding of interest over the period has the most significant effect on the Treasury calculations. For example, Treasury estimates that $82.6 million in interest savings have accrued from the $212.2 million in cash flow gains from cross-currency swaps in 1993–94.

[136] There are no specific accounting standards dealing with the measurement of swap transactions in a set of financial statements, or dealing with disclosure on the face of the primary statements.

accounting policy and net fair values (market values) of the swaps disclosed in the Financial Instruments note.[137]

Figure 5.3

AOFM Comments on Section 19 Proposed ANAO Performance Audit Report

There are a number of references throughout the course of the [ANAO] report to the fact that the Commonwealth's swap portfolio had a negative market value of some $1.3 billion at 30 June 1999. This represents the net present value of unrealised future swap cash flows based upon market conditions as at 30 June 1999. While the figure is factually correct, it is not in any sense, as some might infer from the discussion in the report, a measure of the success or otherwise of the strategy underlying the Commonwealth's portfolio management operations.

Cross-currency and interest rate swaps generate a series of swap cash flows over their term to maturity. When a swap is transacted, the net present values of both the pay and receive legs are equal (i.e. zero overall). This does not mean that pay and receive cash flows will be equal at every coupon date in the future. Through the lifetime of a swap, the Commonwealth may be a 'net' receiver early in the lifetime of the swap and a 'net' payer (implying that the swap has a negative market value) later in the life of the swap.

This will occur even if market interest and exchange rates evolve exactly as anticipated by the market at the time the swap was transacted:

- Take the example of an Australian dollar to United States dollar cross-currency swap. Normally, Australian dollar interest rates are higher than United States interest rates. At the time the cross-currency swap is transacted, its net present value would be zero, with the benefit of 'net' interest receipts exactly offset by the (projected) capital loss on the final exchange of swap principal due to an anticipated depreciation of the exchange rate. Even if market interest and exchange rates move as anticipated at the time of the transaction, this swap will go 'out-of-the-money' through the swap's lifetime.
- The Commonwealth's strategy of achieving a long-term saving on United States dollar exposure, given an acceptable level of risk, does not rely on absolute appreciation in the exchange rate. Depreciation in the exchange rate by less than factored in by the market at the time of the swap transaction leads to a net benefit.

The benefit or otherwise of the swap program can only be properly assessed by comparing realised cash flows (and any interest earning/costs on these flows) and unrealised swap cash flows jointly, as is done in Chapter 5 of the ANAO report. As indicated in Chapter 5, aggregate realised cash flows on the Commonwealth's swap activities significantly exceed the current negative unrealised market value of the swap book. Of itself, the market value of the swap book is not a valid indicator of the economic benefit of the swap program, nor of the strategy underpinning it.

The market value of the swap book serves as a signal to keep the strategy and assumptions underpinning the Commonwealth's swap operations under regular review. This has been, and will continue to be, the AOFM's practice.

Source: AOFM, 23 September 1999.

[137] Note 30(E) in the 1997-98 Treasury Financial Statements.

Internal processes and segregation of duties

5.60 The 1993 report by the private sector Group of Thirty titled *Derivatives: Principles and Practices* recommended that end-users that are significant users of financial derivatives establish market risk management functions that are independent of trading personnel, periodically forecast the cash investing and funding requirements arising from their derivatives portfolios, mark their derivatives positions to market on a regular basis, and establish and ensure adherence to market risk limits.[138]

5.61 It is common financial market practice for derivatives transactions to be entered into by dealers (the 'front office') with a clear segregation of duties from personnel responsible for oversighting and controlling dealing activities (the 'middle office') and the settlements area (the 'back office'). In 1995, Treasury established a 'middle office' to enhance the division of responsibilities for its swap activities. This change was initiated by a 'front office' comparison against the Group of Thirty's recommendations of Treasury's procedures for administering the swaps program. The review was sparked by the collapse of Barings Bank.[139] The review concluded that the existing safeguards for detecting and minimising inappropriate risk taking, unauthorised trading and fraud were appropriate to the task and compare favourably with the Group of Thirty recommendations. Nevertheless, revisions to procedures were recommended to improve the segregation of the swap confirmation process, monitoring of swap credit exposures and use of credit limits, and regular reconciliations and random audits[140] of swap settlements. The conclusions and recommendations were endorsed by management.

5.62 Also in 1995, Treasury's 'front office' reviewed the segregation of duties within the then Debt Management Branch. In particular, the review proposed a reallocation of duties and responsibilities in respect of the swaps program following the establishment of a 'middle office' section to operate between the dealing and settlements areas, oversighting the activities of both.[141] The proposed segregation of duties was adopted by Treasury.

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138 The Group of Thirty, *Derivatives: Practices and Principles: Working Party of the Valuation and Market Risk Management Subcommittee*, p.13.

139 Bank of England, *Report of the Board of Banking Supervision Inquiry into the Circumstances of the Collapse of Barings*, 18 July 1995. The Bank of England's report noted a lack of segregation between the front and middle/back offices of Barings had contributed to unauthorised and concealed derivatives trading which had not been noticed earlier because of a serious failure of controls and managerial confusion.

140 As outlined at para 5.12, no internal audits of the application and effectiveness of controls associated with Treasury's use of financial derivatives have been undertaken as yet.

141 The establishment of a 'middle office' had been proposed in the earlier review, consistent with the Group of Thirty's recommendations.

5.63 ANAO considers it important that future reviews be undertaken at least in part by officers that are operationally independent from the function(s) being reviewed.[142] Another issue that may merit examination in future reviews is the development and senior management endorsement of a comprehensive risk management policies and procedures manual.[143]

5.64 In addition, systems for recording and valuing the swaps portfolio are not integrated, with a number of different databases in use for different purposes. Of concern to ANAO was that Treasury's derivatives dealer maintains a separate database, although Treasury has assured ANAO that this database is not used to undertake market valuations of the swaps portfolio. Nevertheless, a clear segregation of recording and valuation duties from those responsible for entering into derivatives transactions is a fundamental internal control. ANAO notes that, as part of the establishment of the AOFM, a capital injection is to be made to fund the acquisition of specialist financial management computer software and hardware necessary to support the Office's operations.

5.65 **Finding:** Significant unanticipated financial losses in relation to derivatives can occur as a result of unfavourable movements in interest and exchange rates. Treasury reported to ANAO that, since inception, its swap activities have achieved an aggregate economic gain of $539 million although there have been significant year-by-year variations in returns. For example, in the last five years the aggregate gain has been $58 million including a $1.33 billion gain in 1995–96 and a $1.97 billion loss in 1997–98.

5.66 The private sector Group of Thirty has recommended the establishment of market risk management functions that are independent of trading personnel, regular marking of derivatives positions to market, and adherence to market risk limits. Treasury has reviewed its procedures for administering the swaps program and concluded that its safeguards

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[142] The Basle Committee on Banking Supervision's January 1996 *Amendment to the Capital Accord to Incorporate Market Risks* advocates (p.39) the establishment of a risk control unit that is responsible for the design and implementation of the risk management system and which is independent from trading personnel (that is, the 'front office').

[143] The Basle Committee on Banking Supervision argues that boards of directors and senior management should be actively involved in the risk control process and must regard risk control as an essential aspect of the business to which significant resources need to be devoted. See the January 1996 *Amendment to the Capital Accord to Incorporate Market Risks* (p.39) and the July 1996 *Risk Management Guidelines for Derivatives* (pp.5–6). The Committee's *Amendment to the Capital Accord* further advocates (p.40) that the risk management system be well documented, for example, through a risk management manual.

for detecting and minimising inappropriate risk taking, unauthorised trading and fraud were appropriate to the task and compare favourably with the Group of Thirty recommendations.

5.67 Systems for recording and valuing the swaps portfolio are not integrated, with a number of different databases in use for different purposes. Of concern to ANAO was that Treasury's derivatives dealer maintains a separate database, although Treasury has assured ANAO that this database is not used to undertake market valuations of the swaps portfolio. Nevertheless, a clear segregation of recording and valuation duties from those responsible for entering into derivatives transactions is a fundamental internal control. ANAO notes that, as part of the establishment of the Australian Office of Financial Management, a capital injection is to be made to fund the acquisition of specialist financial management computer software and hardware necessary to support the Office's operations.

Acceptable risk

5.68 Treasury's portfolio management activities are undertaken by managing the balance between a variety of different debt instruments, each with different cost and risk characteristics, with the aim of minimising the long-term cost of the portfolio while ensuring that the associated degree of risk is acceptable. Reflecting the uncertainty that debt management poses for the Budget, risk is measured in terms of the probability of achieving a target or threshold debt financing cost.[144]

5.69 In 1998–99 cash flows on cross-currency swaps increased costs by $503 million after cross-currency swaps had reduced costs by an average of $613 million per annum between 1994–95 and 1995–96. At 30 June 1999, Treasury estimated that the swap portfolio at this time had a negative market value of some $1.3 billion, representing a current estimated unrealised loss on outstanding transactions as at 30 June 1999. Unless market prices move in Treasury's favour, the 30 June 1999 estimated unrealised losses will be realised in future cash flows.

5.70 For many financial institutions, market risk limits on swaps that are 'out of the money' are considered to represent sound practice as they provide a constraint on the potential for losses in swap activities to

[144] See paragraph 3.16.

exceed prudent levels.[145] Indeed, the Basle Committee on Banking Supervision has advocated the establishment of limits for market risk that are consistent with maximum exposures authorised by senior management and stop-loss limits to control market risk.[146]

5.71 Although Treasury marks its debt portfolio, including its swaps, to market on a weekly basis, it has not established market risk limits. Treasury advised ANAO that market risk on its swap portfolio is managed in accordance with the overall duration and currency exposure portfolio benchmark target ranges (see Chapter 3). Also, Treasury informed ANAO that market risk limits are not appropriate to its circumstances as it does not seek to outperform the portfolio benchmark target ranges.

5.72 The robustness of Treasury's approach depends on the benchmark target ranges being appropriate and that adverse structural changes do not occur. In the absence of continuous reassessment of the appropriateness of the portfolio benchmark target ranges, ANAO considers that the maximum net exposures that are permitted from swap activities should be reviewed by the AOFM Board and departures promptly reported to it, and the Treasurer as appropriate, as a means of safeguarding the Commonwealth's exposure to financial loss.[147] At present, the benchmark target of holding 10 to 15 per cent of the debt portfolio with a United States dollar exposure which is achieved through cross-currency swaps provides significant operational latitude. Accordingly, the precise position of the portfolio within this wide range can have substantial financial implications for the Commonwealth.

5.73 Although 'out of the money' swaps may involve exposures that are consistent with Treasury's long-term portfolio benchmark targets, ANAO notes that Treasury departs from its portfolio benchmark targets to manage the risk of individual counterparties defaulting on profitable ('in the money') swaps (see Figure 5.4).[148] This contrasts with Treasury's

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[145] For example, in order to be permitted to use its own internal model to measure and manage market risks including the risk of taking positions in foreign currencies, *Prudential Statement C3 – Capital Adequacy of Banks: Market Risk* requires the bank to satisfy a number of qualitative criteria including that the risk measurement system be used in conjunction with internal trading and exposure limits (para 136(e)). Similarly, former *Prudential Statement A1: Prudential Supervision of Banks* (which outlined the Reserve Bank's approach to prudential supervision of banks) stated that the Reserve Bank had established for each bank limits in respect of its net overnight foreign exchange position which exposes a bank to foreign exchange risk.

[146] Basle Committee on Banking Supervision, *Risk Management Guidelines for Derivatives*, July 1994, p. 13.

[147] Indeed, Treasury's most recent (August 1998) review of its portfolio benchmark assumptions noted that, if United States dollar exposure results in excessive cost volatility, the expected long-term cost savings may not be worthwhile. In other words, the expected long-term cost savings would involve unacceptable risk.

[148] See paragraph 3.56.

practice for loss-making ('out of the money') swaps which are allowed to run to maturity regardless of the size of the financial loss.

Figure 5.4

Changing Market Value of Swap Transactions: Risk Implications

	What it means	*Risk implications*	*Treasury's management approach*
Swaps are 'in the money'	Treasury has, at current prices, made an unrealised profit by entering into the swap transaction meaning that, after allowing for the time value of money, future swap receipts are expected to exceed future swap payments.	The swap gives rise to credit risk because, in the event of counterparty default, the Commonwealth would suffer financial detriment through the opportunity cost of being unable to realise the expected gain from the transaction. This risk will only be realised if counterparties' default, which has yet to occur. Treasury only transacts with highly rated counterparties.	When swaps are 'in the money' to such an extent that a counterparty has breached predetermined credit risk limits, Treasury's Swap Counterparty Credit Policy requires it to consider reducing credit risk exposures for this counterparty. This can be achieved by unwinding (cancelling) the swap or by mark to market adjustments such as swap principal adjustments and recouponing.
Swaps are 'out of the money'	Treasury has, at current prices, made an unrealised loss by entering into the swap transaction.	Since entering into the swap, market prices have moved such that future swap payments are expected to exceed future swap receipts. The loss will be realised unless market prices move in Treasury's favour to such an extent that the swap becomes 'in the money'.	No action is taken to reduce market risk exposure on 'out of the money' swap transactions. Treasury manages market risk by undertaking transactions that are consistent with its long-term portfolio benchmark targets for portfolio duration and foreign currency exposure.

Source: ANAO analysis.

5.74 **Finding:** At 30 June 1999, Treasury estimated that the cross-currency and interest rate swaps at this time had a combined negative market value of some $1.3 billion, representing a current estimated unrealised loss on outstanding transactions as at 30 June 1999. In 1998–99, cash flows on cross-currency swaps, which Treasury uses to obtain its targeted exposure to foreign currency, increased debt costs by $503 million. This was partially offset by net cash inflows of $125 million on domestic interest rate swaps.

5.75 Treasury manages market risk on its swap portfolio in accordance with the overall duration and currency exposure portfolio benchmark targets. The robustness of Treasury's approach depends on the benchmark targets being appropriate and that adverse structural changes do not

occur. In the absence of continuous reassessment of the appropriateness of the portfolio benchmark targets, ANAO considers that the maximum net exposures that are permitted from swap activities should be reviewed by the AOFM Board and departures promptly reported to it, and the Treasurer as appropriate, as a means of safeguarding the Commonwealth's exposure to financial loss. Other steps that can be taken to improve the management of risk on the swap portfolio include periodic independent reviews of internal controls and enhance documentation of risk management policies and procedures.

5.76 Recommendation No.6: ANAO *recommends* that, having regard to the significant unanticipated financial losses that can occur due to risk involving derivatives and the Commonwealth's unique responsibilities, the Board of the Australian Office of Financial Management:

(a) enhance existing documentation of the Australian Office of Financial Management's risk management policies and procedures in a comprehensive procedures manual;

(b) ensure that internal controls are periodically independently reviewed;

(c) consistent with the objective of seeking long-term cost savings subject to acceptable short-term cost volatility, require the timely review and reporting of significant movements in the net exposures around the mid-point of the relevant benchmark ranges for cross-currency and interest rate swaps; and

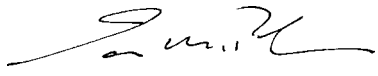
(d) ensure that the Treasurer is consulted on matters of significance which may affect Government decisions on financial exposures.

AOFM response

5.77 Agreed.

Treasury response

5.78 Agreed.



Canberra ACT
12 October 1999

Ian McPhee
Acting Auditor-General

Appendices

Index

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